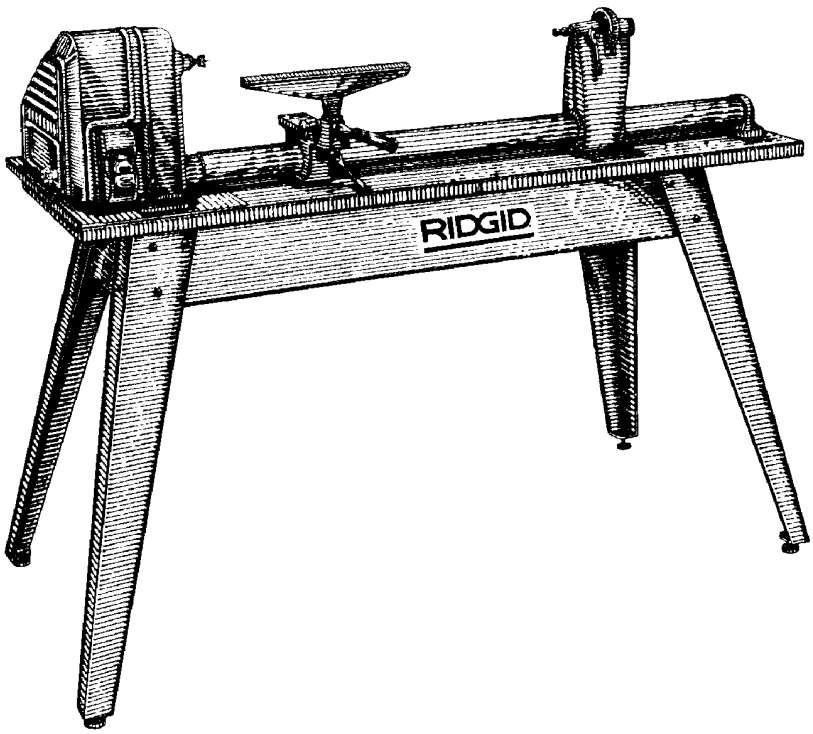
RIDGID®

WL1200
OWNER'S MANUAL



12 INCH
WOOD TURNING LATHE

Call Us 1st

For any questions about:

- **Operation**
- **Warranty** (See back cover)
- **Technical Assistance**
- **Repair Parts**

Please have your Model Number and Serial Number on hand when calling.

1-800-4-RIDGID

RIDGIDParts.com

POWER TOOL PARTS & ACCESSORIES

For Your Safety:

Read all instructions carefully

Save this manual for future reference

Part No. SP6169

Printed in U.S.A.

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Safety Instructions For Wood Turning Lathe

Safety is a combination of common sense, staying alert and knowing how your lathe works. Read this manual to understand this tool.

Safety Signal Words

DANGER: means if the safety information is not followed someone **will** be seriously injured or killed.

WARNING: means if the safety information is not followed someone **could** be seriously injured or killed.

CAUTION: means if the safety information is not followed someone **may** be injured.

Before Using the Lathe

WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

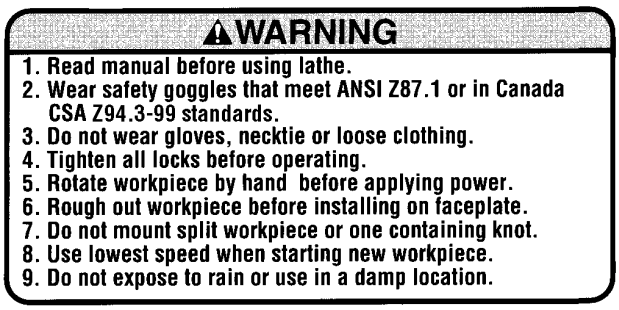
- **Lead from lead-bases paints,**
- **Crystalline silica from bricks and cement and other masonry products, and**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

WARNING: To reduce the risk of mistakes that could cause serious, permanent injury, do not plug the lathe in until the following steps have been satisfactorily completed.

Know and Understand the Lathe

- Completely assemble and align lathe.
- Learn the use and function of the ON-OFF switch.
- Review and understand all safety instructions and operating procedures in this manual.
- Review the maintenance methods for this lathe.
- Find and read the warning label found on the lathe (shown below).


⚠WARNING
1. Read manual before using lathe.
2. Wear safety goggles that meet ANSI Z87.1 or in Canada CSA Z94.3-99 standards.
3. Do not wear gloves, necktie or loose clothing.
4. Tighten all locks before operating.
5. Rotate workpiece by hand before applying power.
6. Rough out workpiece before installing on faceplate.
7. Do not mount split workpiece or one containing knot.
8. Use lowest speed when starting new workpiece.
9. Do not expose to rain or use in a damp location.

When Installing Or Moving the Lathe

Reduce the Risk of Dangerous Environment.

- Use the lathe in a dry, indoor place protected from rain.
- Keep work area well lighted.

To reduce the risk of injury from unexpected lathe movement.

- The lathe and motor must be bolted down to a stand or workbench for stability.
- To reduce the risk of injury from electrical shock, make sure your fingers do not touch the plug's metal prongs when plugging in or unplugging the lathe.
- Turn off and unplug the lathe before moving it to a new area. To reduce the risk of back injury, get help when you need to lift or move the lathe.
- **Never Stand On Tool.** Serious injury could occur if the tool tips or you accidentally hit the cutter head. Do not store anything above or near the tool where anyone might stand on the tool to reach them.

Before Each Use

Inspect your lathe.

- To reduce the risk of injury from accidental starting, turn the switch off, unplug the lathe, and remove the switch key before changing the speeds, changing the setup, or adjusting anything.
- Check for alignment of moving parts, binding of moving parts, breakage of parts, unit stability, and any other conditions that may affect the way the lathe works.
- If any part is missing, bent or broken in any way, or any electrical part does not work properly, turn the lathe off and unplug the lathe.
- Replace damaged, missing or failed parts before using the lathe again.
- Keep lathe interior free of wood chips and dust buildup around motor and switch box.
- Keep turning tools sharp. Dull or nicked tools tend to dig in the wood, causing the tool or workpiece to be thrown.
- To reduce the risk of injury from unsafe accessories, use only recommended accessories.

Safety Instructions For Wood Turning Lathe (continued)

Use Recommended Accessories.

- To avoid injury from unsafe accessories, use only recommended accessories.
- Consult the owners manual for recommended accessories.
- Follow the instructions that accompany the accessories.

WARNING: Use only accessories recommended for this lathe. (Using other accessories may be dangerous.)

To Reduce the Risk of Injury From Jams, Slips Or Thrown Pieces (Kickbacks Or Throwbacks)

When turning between centers or on the faceplate:

- Always rough-out "out of round" workpieces at slow speed.
- Running the lathe too fast, so that it vibrates, could cause the workpiece to be thrown from the lathe... or the turning tool to be jerked from your hands.

Always revolve the workpiece by hand before turning on the motor. If the workpiece strikes the tool rest, it could split and be thrown out of the lathe.

Do not allow the turning tool to "bite" into the workpiece which could result in splitting of the workpiece or the workpiece being thrown from the lathe.

- Always position the tool rest above the centerline of the lathe for spindle turning.
- Do not apply the turning tool to the workpiece below the level of the tool rest.

Do not run the lathe in the wrong direction. This could cause the turning tool to be thrown from your hands. The lathe must run in a direction so that the top of the workpiece turns toward you.

Before attaching a workpiece to the faceplate:

- Always "rough it out" to as "true round" as possible. This will minimize vibration while turning.
- Always fasten the workpiece securely to the faceplate.
- Failure to perform these set-up operations could cause the workpiece to be thrown from the lathe.

Avoid awkward hand positions, where a sudden slip could cause a hand to move into the workpiece.

Remove all loose knots before installing workpiece between centers or on the faceplate.

Never leave the lathe work area with the power on, before the lathe has come to a complete stop, or without removing and storing the switch key.

Never operate the lathe with protective cover on the unused shaft end of the motor removed.

Hang your turning tools on the wall toward the tailstock end of the lathe. Do not lay them on the bench so that you must reach over the revolving workpiece to select them.

Keep firm hold and control of the turning tool at all times. Special caution must be exercised when knots or voids are exposed to the turning tool.

Plan Ahead To Protect Your Eyes, Hands, Face and Ears

Reduce the Risk of Accidental Starting.

- Make sure switch is “OFF” before plugging lathe into a power outlet.

Dress for safety.

- Any power tool can throw foreign objects into the eyes. This can result in permanent eye damage. Always wear safety goggles, not glasses complying with ANSI Z87.1 (or in Canada CSA Z94.3-99) shown on package. Everyday eyeglasses have only impact resistant lenses. They are not safety glasses. Safety goggles are available at many local retail stores. Glasses or goggles not in compliance with ANSI or CSA could seriously hurt you when they break.

- For dusty operations, wear a dust mask along with safety goggles.
- Do not wear loose clothing, gloves, neckties or jewelry (rings, wrist watches). They can get caught and draw you into moving parts.
- Wear nonslip footwear.
- Tie back long hair.
- Roll long sleeves above the elbow.
- Noise levels vary widely. To reduce the risk of possible hearing damage, wear ear plugs or muffs when using lathe for hours at a time.

Inspect Your Workpiece

- Think Safety.
- Complete hand sanding of between-centers or faceplate mounted workpieces Before removing from the lathe. Do not exceed the speed used for the last cutting operation performed on the workpiece, in accordance with the speed chart.

- **Never** attempt to remount a faceplate turning to the faceplate for any reason. **Never** attempt to remount a between-centers turning if the original centers in the turning have been altered or removed. **Be positive** the lathe is set at the lowest speed if remounting a between-centers turning with non-altered original centers.
- Use extra caution in mounting a between-centers or spindle turning to the faceplate, or a faceplate turning to between- centers, for subsequent operations. **Be positive** the lathe is set at the lowest speed before turning ON.
- **Never** mount a workpiece that contains any splits, checks, or loose knots to a faceplate or between centers.
- Do not perform any operation when hand holding the workpiece. Do not mount a reamer, milling cutter, wire wheel, buffing wheel, or a drill bit to the headstock spindle.

Whenever Lathe Is Running

WARNING: Don't allow familiarity (gained from frequent use of your lathe) to cause a careless mistake. Always remember that a careless fraction of a second is enough to cause a severe injury.

- Before actually turning with the lathe, let it run for a while. If it makes an unfamiliar noise or vibrates a lot, stop immediately. Turn the lathe off. Unplug the lathe. Do not restart until finding and correcting the problem.

Keep Children Away.

- Keep all visitors a safe distance from the lathe.
- Make sure bystanders are clear of the lathe and workpiece.

Don't Force Tool.

- Feed the tool into the workpiece only fast enough to let the tool cut without bogging down or binding.

Before freeing jammed material.

- Turn switch "OFF".
- Wait for all moving parts to stop.
- Unplug the lathe.

Before Leaving the Lathe

- Turn the lathe off.
- Wait for lathe to come to a complete stop.
- Unplug the lathe.
- Make workshop child-proof. Lock the shop. Disconnect master switches. Remove the yellow switch key. Store it away from children and others not qualified to use the tool.

Motor Specifications and Electrical Requirements

This Lathe is designed to use a 1725 RPM motor only. Do not use any motor that runs faster than 1725 RPM. It is wired for operation on 110-120 volts, 60 Hz., alternating current.

CAUTION: Do not use blower or washing machine motors or any motor with an automatic reset overload protector as their use may be hazardous.

Connecting to Power Source Outlet

This machine must be grounded while in use to protect the operator from electric shock.

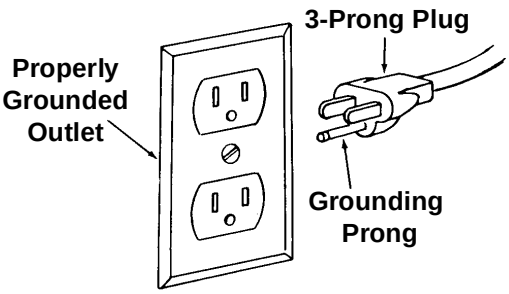
Plug power cord into a 110-120V properly grounded type outlet protected by a 15-amp. dual element time delay or Circuit-Saver fuse or circuit breaker.

If you are not sure that your outlet is properly grounded, have it checked by a qualified electrician.

WARNING: Do not permit fingers to touch the terminals of plugs when installing or removing the plug to or from the outlet.

If power cord is worn or cut, or damaged in any way, have it replaced immediately.

If your unit is for use on less than 150 volts it has a plug that looks like below.



This power tool is equipped with a 3-conductor cord and grounding type plug which has a grounding prong, approved by Underwriters' Laboratories. The ground conductor has a green jacket and is attached to the tool housing at one end and to the ground prong in the attachment plug at the other end.

This plug requires a mating 3-conductor grounded type outlet as shown.

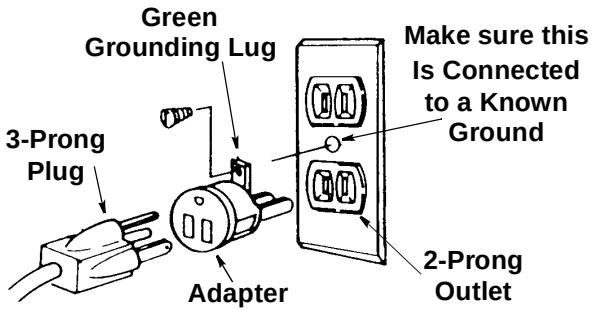
If the outlet you are planning to use for this power tool is of the two prong type **Do Not Remove Or Alter The Grounding Prong In Any Manner**. Use an adapter as shown and always connect the grounding lug to known ground.

It is recommended that you have a qualified electrician replace the **two** prong outlet with a properly grounded **three** prong outlet.

Motor Specifications and Electrical Requirements (continued)

A temporary adapter as shown below is available for connecting plugs to 2-prong receptacles. The green grounding lug extending from the adapter must be connected to a permanent ground such as to a properly grounded outlet box.

A temporary adapter, as illustrated, is available for connecting plugs to 2-prong receptacles. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician.



NOTE: The adapter illustrated is for use only if you already have a properly grounded 2-prong receptacle.

NOTE: In Canada the use of a temporary adapter is not permitted by the Canadian Electrical Code.

Wire Sizes

NOTE: Make sure the proper extension cord is used and is in good condition.

The use of any extension cord will cause some loss of power. To keep this to a minimum and to prevent overheating and motor burn-out, use the table below to determine the minimum wire size (A.W.G.) extension cord. Use only 3 wire extension cords which have 3-prong grounding type plugs and 3-pole receptacles which accept the tool's plug.

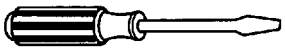
Extension Cord Length	Gauge (A.W.G)
0-25 Ft.	14
26-50 Ft.	12

Check Motor Rotation

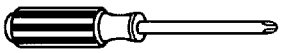
Place the motor on your workbench or on the floor. Standing clear of the motor shaft, plug the motor cord into a properly grounded outlet. Notice the rotation of the shaft. As you look directly at the motor shaft it should be turning in the clockwise direction. If the motor shaft is turning clockwise, remove the plug from the power outlet and continue the assembly procedures. If the motor is turning counterclockwise, remove the plug from the power outlet and contact 1-800-4-RIDGID.

Unpacking and Checking Contents

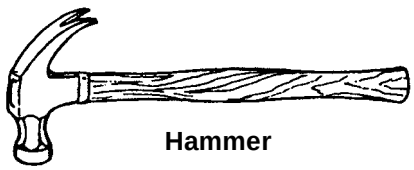
Tools Needed



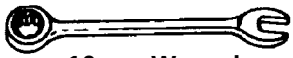
Medium Screwdriver



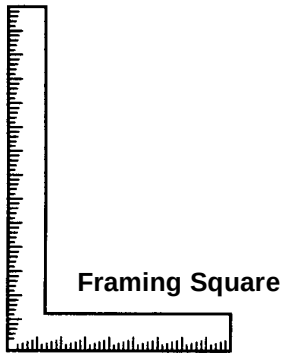
Phillips Screwdriver



Hammer



10mm Wrench
13mm Wrench
14mm Wrench



Framing Square

Unpacking

WARNING: To reduce the risk of injury from unexpected starting or electrical shock, do not plug the power cord into a source of power. This cord must remain unplugged whenever you are working on the wood lathe.

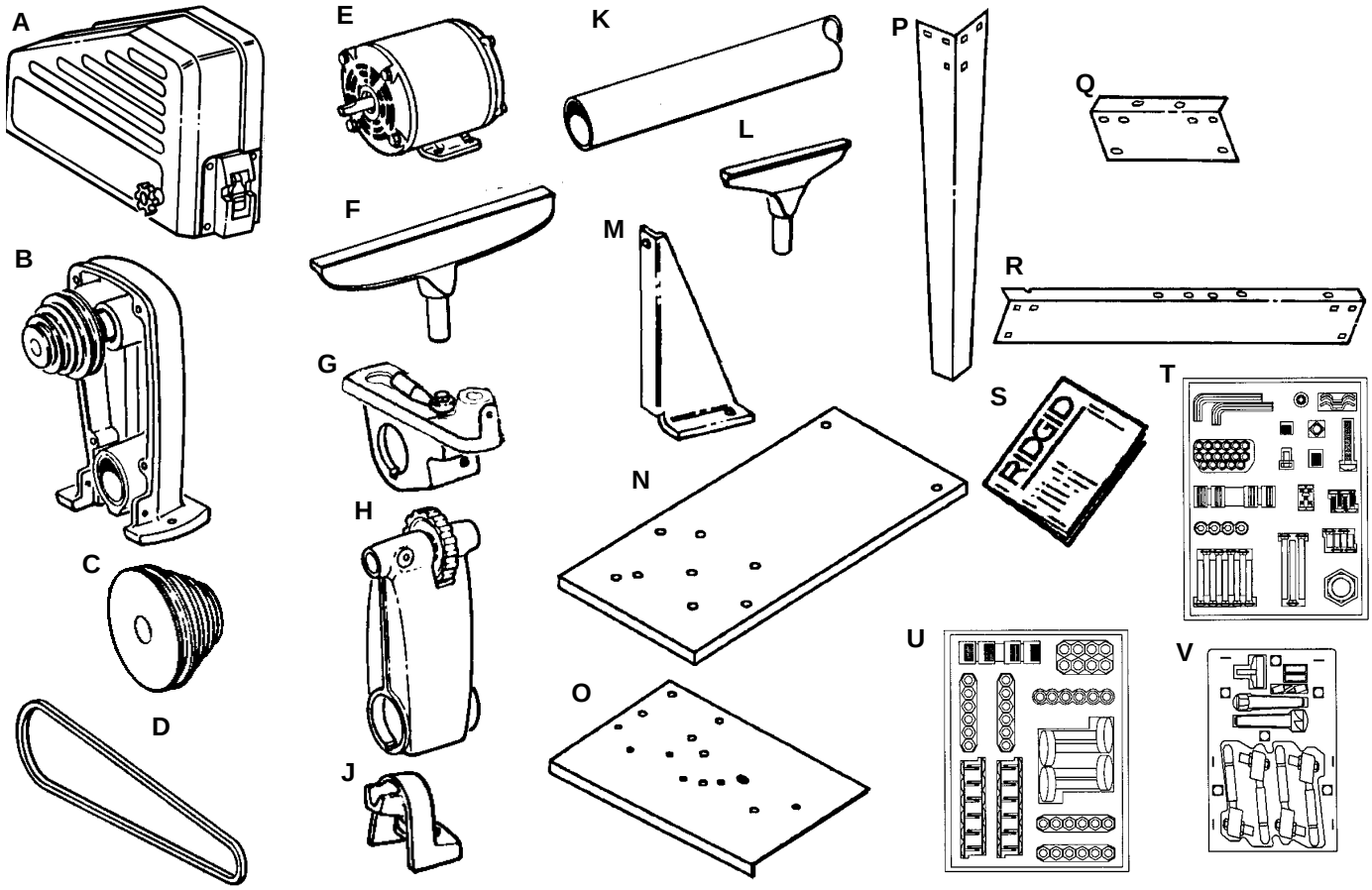
1. Unpack all the parts of your wood lathe and lay them out in your work area so they can be recognized easily. Check all parts with the parts table and be careful not to lose any parts during assembly.

NOTE: Make certain all items are accounted for, before discarding any packing material.

List of Loose Parts

Item	Description	Qty.
A	Belt Guard Assembly	1
B	Headstock	1
C	Motor Pulley	1
D	V-Belt	1
E	Motor	1
F	Large Tool Rest	1
G	Tool Rest Holder/Clamp Support Assembly	1
H	Tailstock and Ram	1
J	Rear Foot	1
K	Tube Or Bed	1
L	Small Tool Rest	1
M	Bracket Plate	1
N	Particle Board Table Top	2
O	Plate-Support (Steel)	1
P	Leg	4
Q	End Stiffener	2
R	Side Stiffener	2
S	Owners Manual	1
T	Loose Parts Package	
	(Containing the following items):	
	Bolt, Carriage M6 x 1.0-45	9
	Bolt, Carriage M6 x 1.0-65	3
	Bolt, Carriage M6 x 1.0-16	4
	Lockwasher, Ext. 5mm	4
	Lockwasher, 6mm	17
	Nut, Hex M6 x 1.0	17
	Nut, Sq. M8 x 1.25	1
	Nut, Hex Heavy 3/4-16	1

Item	Description	Qty.
	Screw, Pan Hd. M8 x 1.25-45	1
	Screw, Pan Hd. M5 x 0.8-12	4
	Screw Socket Set M10 x 1.5-12	1
	Washer, 6.5 x 19 x 1.6	17
	Wrench, Hex “L” 4mm	1
	Wrench, Hex “L” 5mm	1
	Screw Soc. Set M8 x 1.25-8	1
	Screw, Pan Head M4 x 0.7-6	2
	Screw, Pan Head M4 x 0.7-4	3
	Screw, Hex Head M6 x 1.0-12	1
	Cord Clamp	2
U	Loose Parts Package	
	(Containing the following items):	
	Bolt, Carriage M8 x 1.25-16	24
	Nut, Hex M8 x 1.25	24
	Washer M8 x 16 x 1.6	24
	Lockwasher, 8mm	24
	Foot Leveling 3/8"	4
	Nut Hex Jam 3/8-16	8
V	Loose Parts Package	
	(Containing the following items):	
	Spur Center	1
	Point Center	2
	Cup Center	1
	Switch Key	1
	Lever, Assembly	4
	Shoe, Lock	2

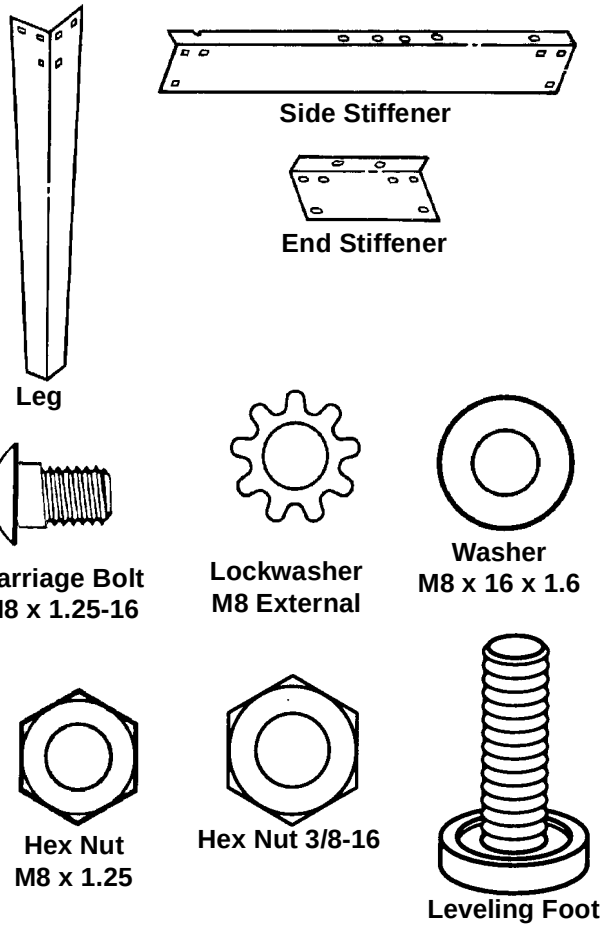


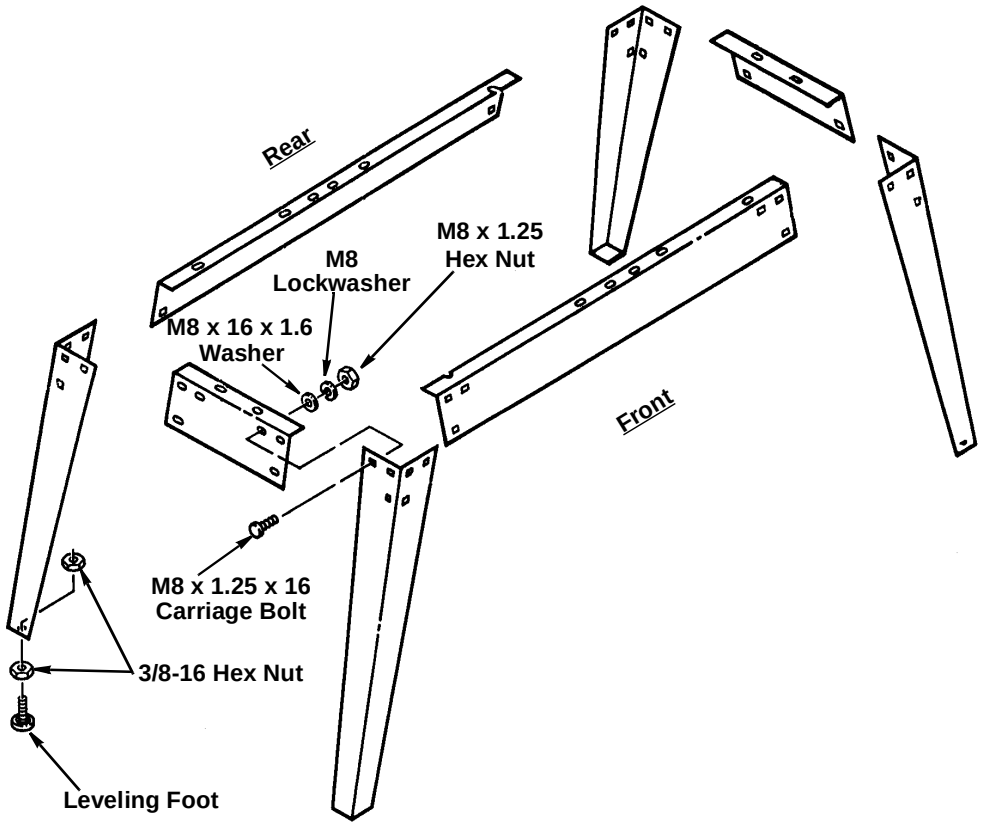
Assembly

Assembling Steel Legset

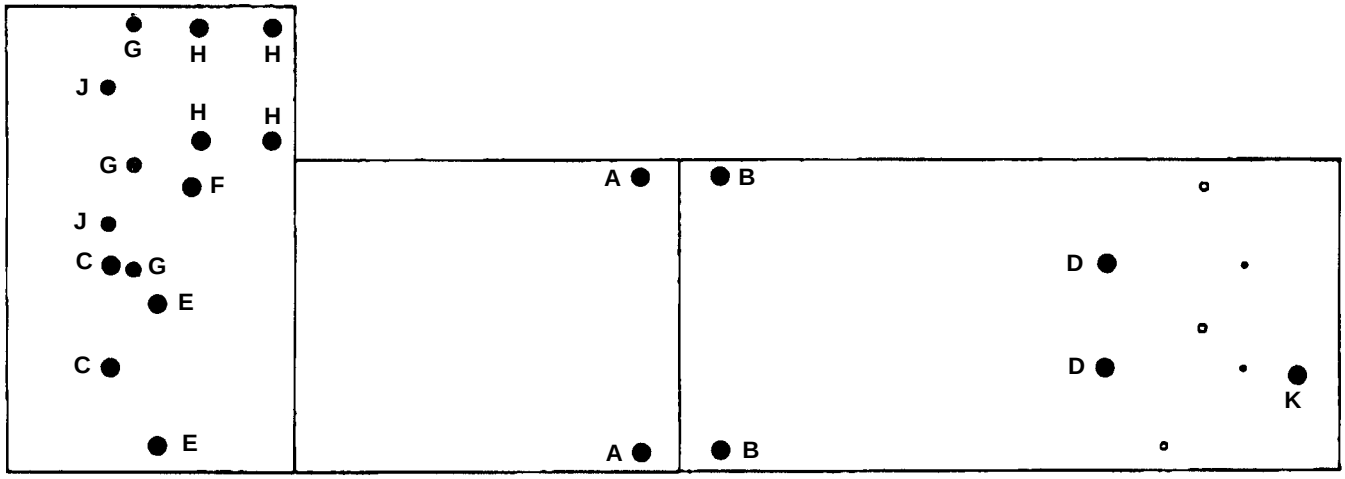
1. Find the following legset pieces:
   - 4 Legs
   - 2 Side Stiffeners
   - 2 End Stiffeners

2. From the loose parts package find the following items:
   - 24 Carriage Bolts M8 x 1.25-16
   - 24 Lockwashers M8 External Type
   - 24 Hex Nuts,M8 x 1.25
   - 24 Washer M8 x 16 x 1.6
   - 8 Hex Nuts, 3/8-16
   - 4 Leveling feet
3. Assemble the legset as shown. The legs must be assembled on the outside of stiffeners and the side stiffener on top of the end stiffeners. Insert the truss head screws through the holes in the legs, then through the holes in the side or end stiffeners.
4. Install washer and lockwasher. Screw on the nuts finger tight.
5. Install leveling feet as shown:





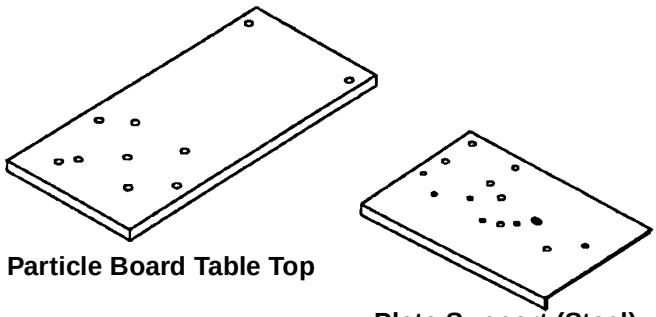
Holes Used for Mounting Boards and Wood Lathe to Leg Set



A - Board/Side Support
B - Board/Side Support
C - Plate Support/Board/End Support
D - Board/End Support
E - Headstock/Plate Support/Board
F - Bracket Plate/Plate Support/Board/Side Support
G - Belt Gaurd/Plate Support
H - Motor/Plate Support
J - Cord Clamps/Plate Support
K - Rear Foot/Board

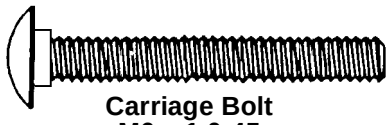
Mounting Left Side Table Top

1. Find the following:
   1 Particle Board Table Top
   1 Plate Support (Steel)
2. From the loose parts package find the following:
   4 M6 x 1.0-45 Carriage Bolts
   4 M6 x 1.0 Hex Head Nuts
   4 6.5 x 19 x 1.6 Flat Washers
   4 6mm Lockwashers
3. Position the table top on the left side of the assembled legset as shown
4. Front Side Stiffeners
   Face the front of the legset and count over from the left one slot and one hole. Place a carriage bolt through the table top (hole A) and the side stiffener. Fasten in place with a washer, lockwasher and nut. Finger tighten only.
5. Rear Side Stiffener
   Face the rear of the legset and count over from the right two holes. Place a carriage bolt through the table top (hole A) and the side stiffener. Fasten in place with a washer, lockwasher and nut. Finger tighten only.
6. Locate the two holes marked C in the steel plate support. Place bolts;
   - through these holes
   - through the two holes marked C on the table top
   - and through the holes marked C in the End Stiffener. Place a washer, lockwasher and nut on these bolts. Finger tighten only.

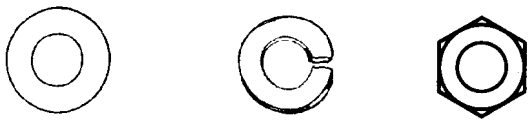


Particle Board Table Top

Plate Support (Steel)



Carriage Bolt
M6 x 1.0-45



Flat Washer
6.5 x 19 x 1.6

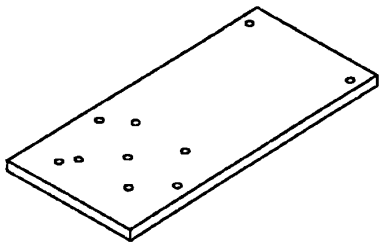
Lockwasher
6mm

Nut Hex
M6 x 1.0

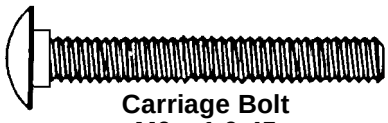
Assembly (continued)

Mounting Right Side Table Top

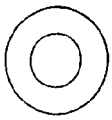
1. Find the following:
   1 Particle Board Table Top
2. From the loose parts package find the following:
   4 M6 x 1.0-45 Carriage Bolts
   4 M6 x 1.0 Hex Head Nuts
   4 6.5 x 19 x 1.6 Flat Washers
   4 6mm Lockwashers
3. The right side mounts similar to the left **except** there is no steel support plate.
4. Place carriage bolts, through the table top holes B and D as shown. Align the right side table top with the left side table top so that the two halves join end to end. Fasten in place with a washer, lockwasher and nut.
5. Securely tighten all nuts and bolts.
6. Adjust leveling feet as follows:
   a. Move legset to desired location.
   b. With a 14mm wrench loosen bottom nut.
   c. Back off top nut by hand.
   d. Raise or lower foot by adjusting bottom nut using 14mm wrench.
   e. Snug top nut against inside of leg by hand.
   f. Tighten all four bottom nuts using 14mm wrench.



Particle Board Table Top



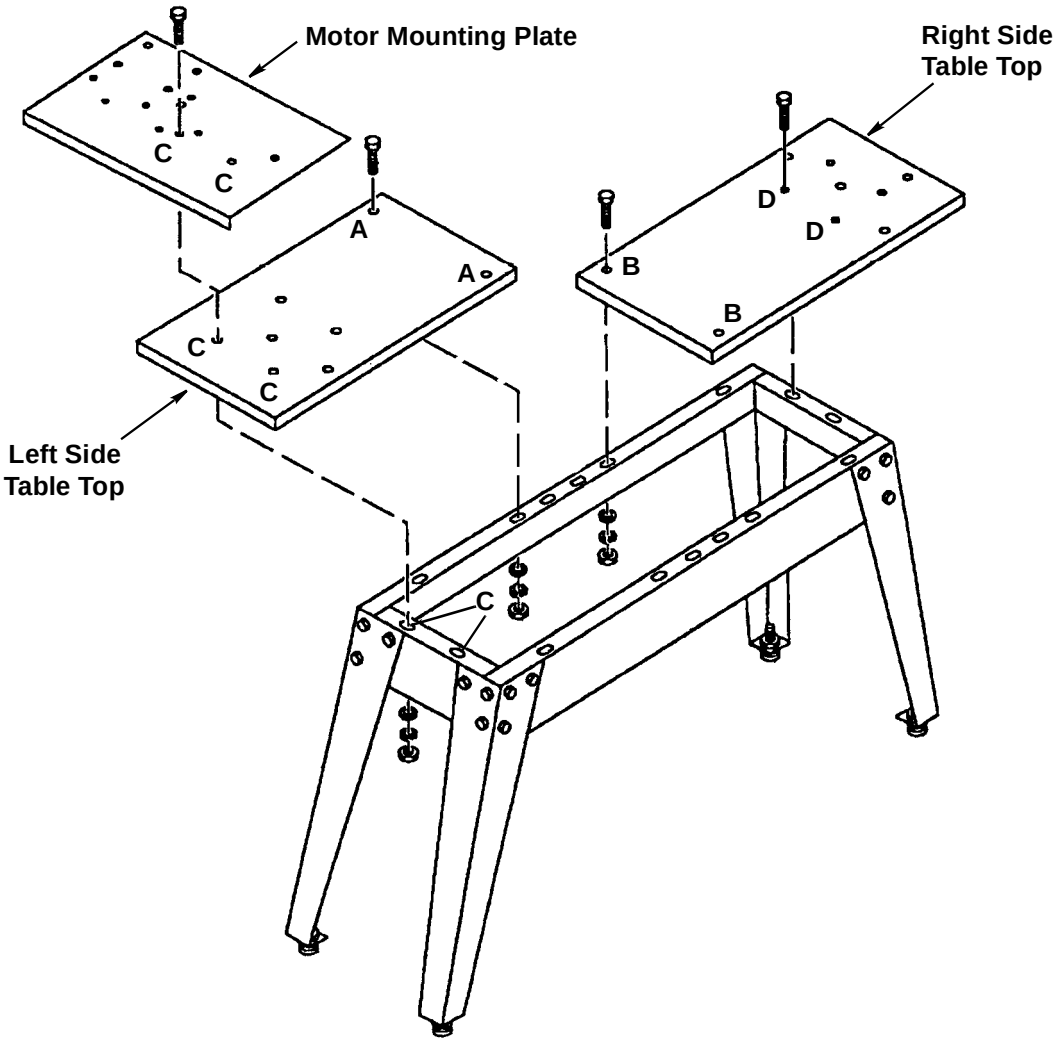
Carriage Bolt
M6 x 1.0-45



Flat Washer
6.5 x 19 x 1.6

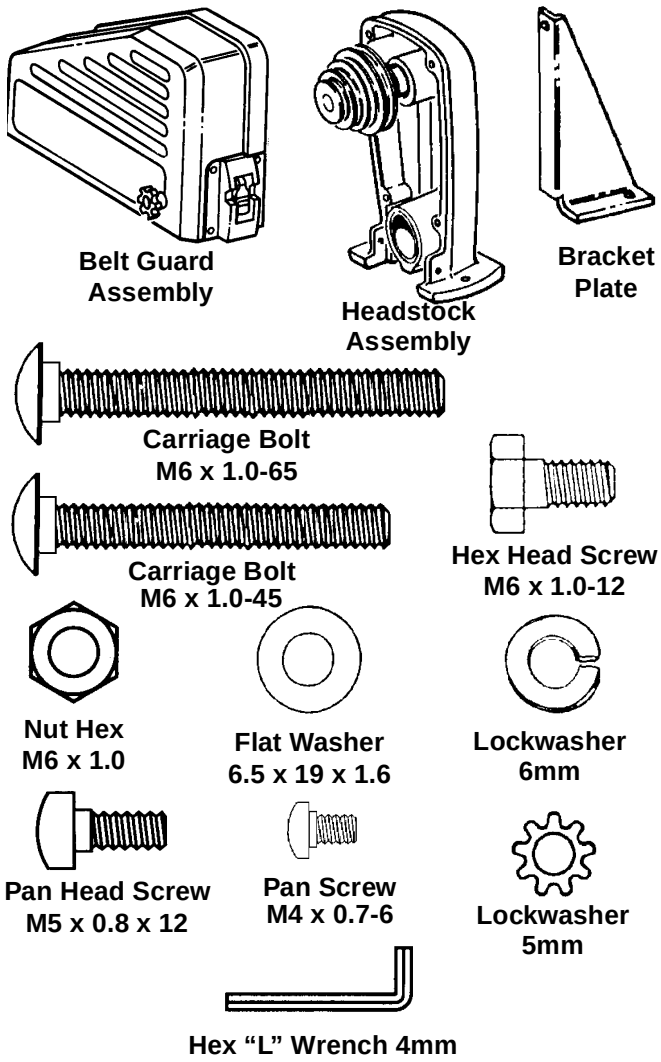
Lockwasher
6mm

Nut Hex
M6 x 1.0

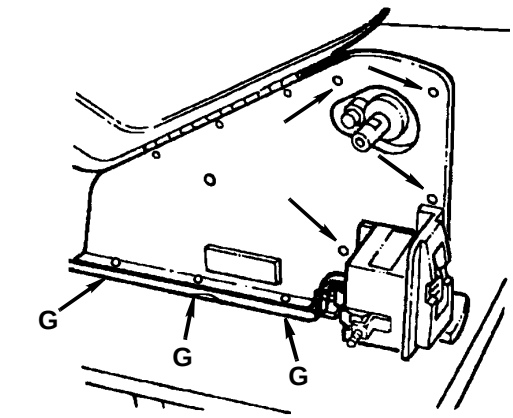


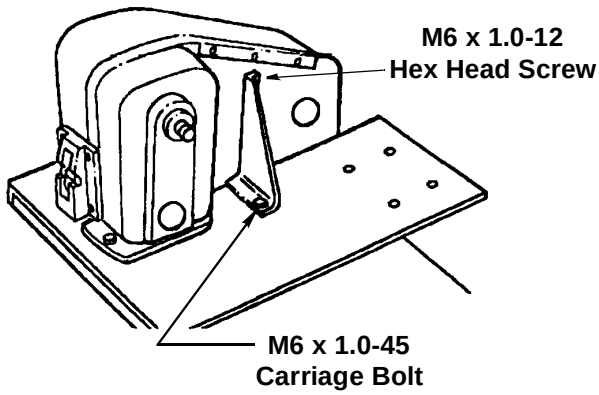
Mounting Headstock

1. Find the following:
   - 1 Belt Guard Assembly
   - 1 Headstock Assembly
   - 1 Plate Bracket
2. From the loose parts package find the following:
   - 2 M6 x 1.0-65 Carriage Bolts
   - 1 M6 x 1.0-45 Carriage Bolt
   - 1 M6 x 1.0-12 Hex Head Screw
   - 4 M6 x 1.0 Hex Nuts
   - 4 6.5 x 19 x 1.6 Flat Washers
   - 4 6mm Lockwashers
   - 4 M5 x 0.8-12 Pan Head Screws
   - 4 5mm Lockwasher
   - 3 M4 x 0.7-6 Screw
   - 1 Hex "L" Wrench 4mm


Belt Guard Assembly
Headstock Assembly
Bracket Plate
Carriage Bolt M6 x 1.0-65
Carriage Bolt M6 x 1.0-45
Hex Head Screw M6 x 1.0-12
Nut Hex M6 x 1.0
Flat Washer 6.5 x 19 x 1.6
Lockwasher 6mm
Pan Head Screw M5 x 0.8 x 12
Pan Screw M4 x 0.7-6
Lockwasher 5mm
Hex "L" Wrench 4mm

3. Remove the headstock pulley using the 4mm hex "L" wrench.
4. Find four pan head thread cutting screws and four lockwashers from among the loose parts. Attach the belt guard to the headstock assembly with these screws and lockwashers. The arrows in this illustration show the location of the screws.
5. Locate the two holes on the left table top Labeled E (from page 9). Position the headstock assembly so the mounting holes line-up with the holes in the table board. Place a M6 x 1.0-65 carriage bolt, through these holes. Fasten in place with a washer, lockwasher and nut.
6. Place the bracket plate next to the headstock as shown. Attach the bracket plate to the back of the belt guard assembly with a M6 x 1.0-12 screw, washer, lockwasher and nut.
7. Locate Hole F on the left table board. Attach the bracket plate to the table top through Hole F. Use an M6 x 1.0-45 carriage bolt, washer, lockwasher and nut. Finger tighten.
8. Locate the three holes Labeled G on the lower edge of the belt guard plate. Place a M4 x 0.7-6 screw through each of these holes and into the tapped holes in the plate support.
9. Replace pulley on headstock tightening with 4mm hex "L" wrench.
10. Securely tighten all nuts and bolts.





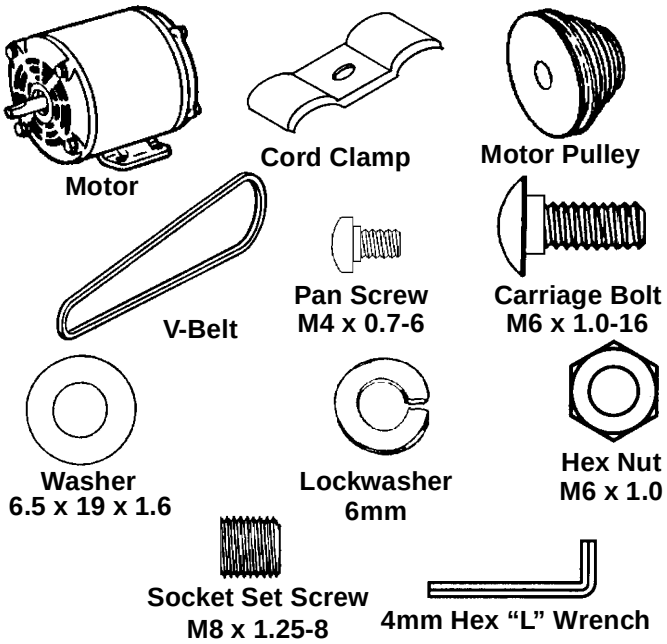
Assembly (continued)

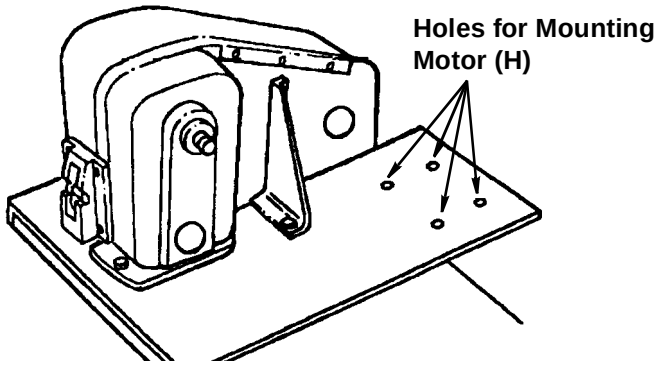
Mounting the Motor

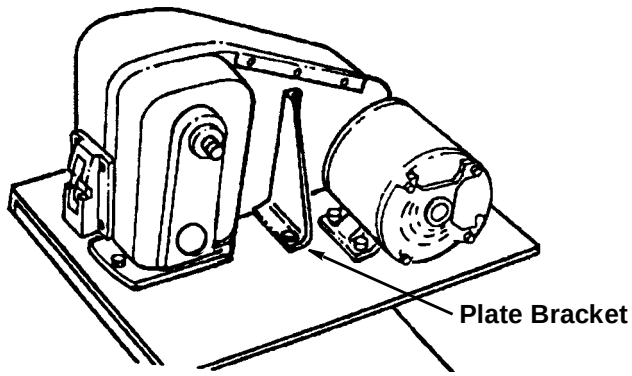
1. Find the following:
   - 1 Motor
   - 1 Motor Pulley
   - 2 Cord Clamps
   - 1 V-Belt
2. From the loose parts package find the following:
   - 2 M4 x 0.7-6 Pan Head Screws
   - 4 M6 x 1.0-16 Carriage Bolts
   - 4 6.5 x 19 x 1.6 Flat Washers
   - 4 6mm Lockwashers
   - 4 M6 x 1.0 Hex Nuts
   - 1 M8 x 1.25-8 Socket Set Screw
   - 1 4mm Hex "L" Wrench
3. Locate the four holes Labeled H on the plate support.
4. Place the motor over these holes with the motor shaft extending through the belt guard plate. Secure in place with carriage bolts, washers, lockwashers and nuts.
5. Plug motor cord into outlet on back of switch box. Do Not plug motor cord into power source outlet.
6. Route the motor cord along side the headstock as shown. Secure the motor cord with two cord clamps and an M4 x 0.7-6 pan head screw into the tapped holes Labeled J in the motor mounting plate.
7. Place the motor pulley on the motor shaft so that the small diameter is approximately 1/16" away from the motor. Tighten the setscrew with the 4mm Hex "L" wrench securely against the flat spot on the motor shaft.
8. Place the belt on the pulleys and slide the motor toward the rear of workbench until all the slack is removed from the belt. Tighten only two of the motor mounting bolts at this time.

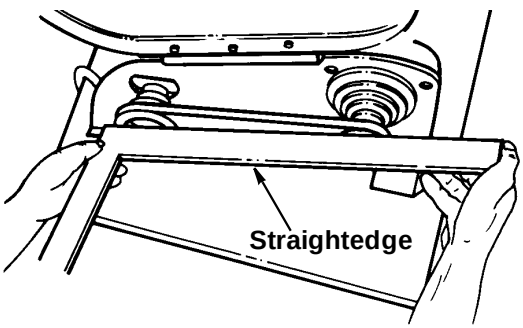
   NOTE: 1/2 inch deflection of belt under moderate pressure applied between the two pulleys is adequate tension.
9. Place a straightedge such as a piece of wood, metal or framing square across the pulleys to see if they are in line with each other. If they are, tighten the other two motor mounting bolts. If they are not in line, loosen the two motor bolts and move the motor sideways until pulleys are in line. Tighten the bolts.

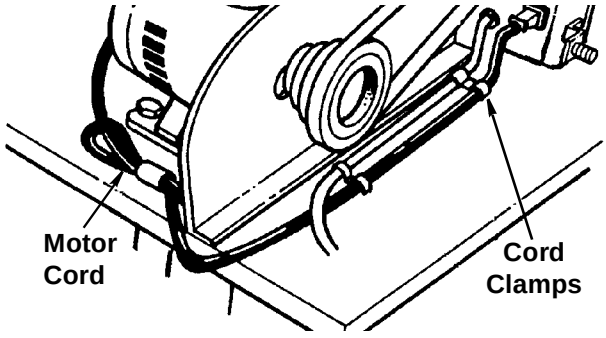
   NOTE: Changing speeds ic accomplished by repositioning the V-Belt on the pulleys (see Changing Speeds" section). There needs to be sufficient slack in the V-belt to allow for this.





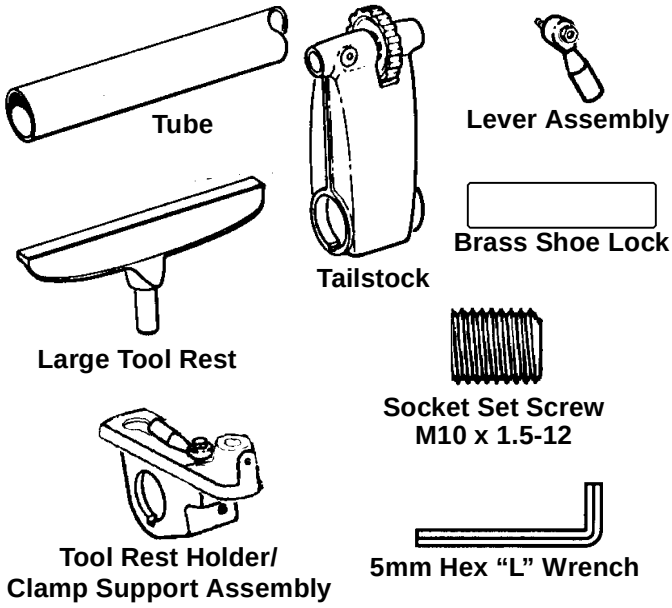




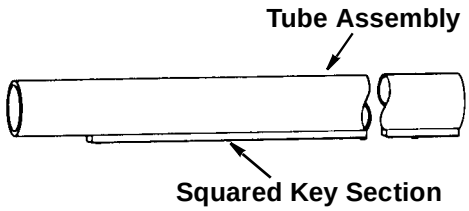


Headstock,Tailstock, and Tool Rest Assembly

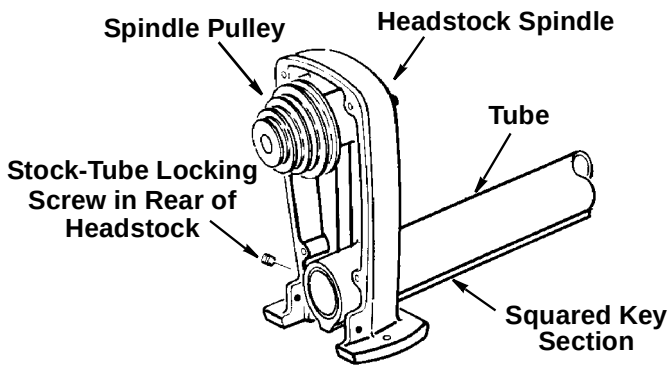
1. Find the following:
   - 1 Tube
   - 1 Large Tool Rest
   - 1 Tailstock
   - 2 Lever Assembly
   - 1 Socket Set Screw M10 x 1.5-12
   - 1 Tool Rest Holder/Clamp Support Assembly
   - 2 Brass Shoe Locks
   - 1 5mm Hex “L” Wrench



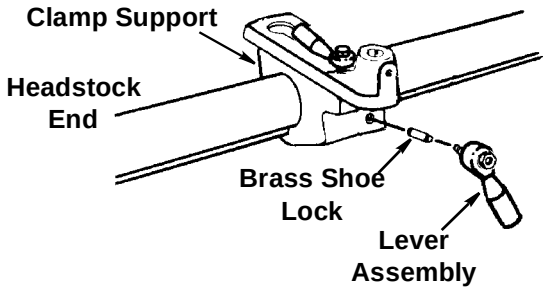
2. Place the tube assembly on your workbench as shown. Always keep the squared key section straight down.



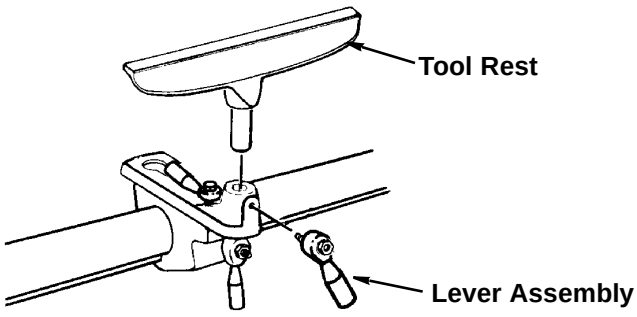
3. Slide the tube into the headstock until it stops against the squared key section. Insert locking setscrew and tighten with 5mm hex “L” wrench.



4. Slide the tool rest holder/clamp support assembly onto the middle of the tube. Assemble lock lever as shown.

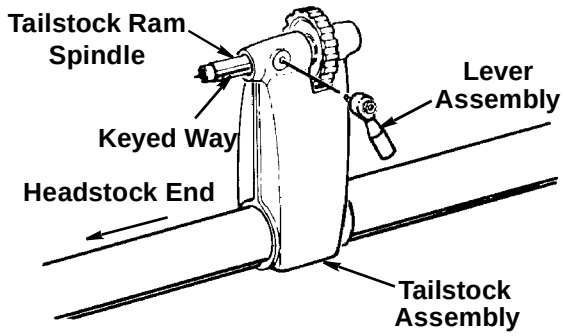


5. Set large tool rest in tool rest holder and install locking lever as shown.

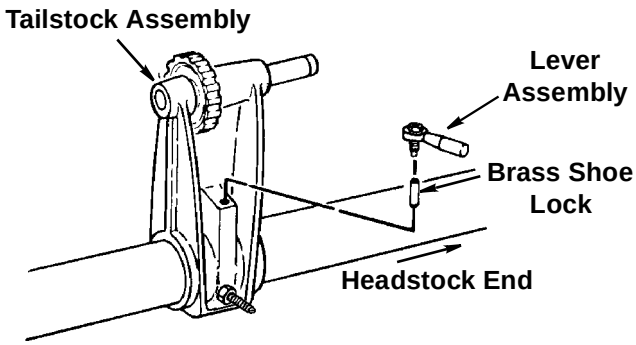


Assembly (continued)

6. Slide tailstock assembly onto the tube and install tailstock ram spindle lock lever. Be sure that the stud nut engages the keyed way of the spindle.

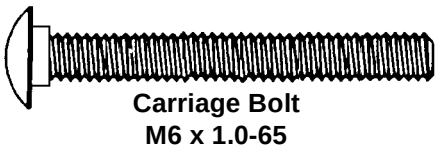


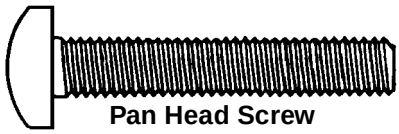
7. On the backside of the tailstock, assemble the locking devices as shown.

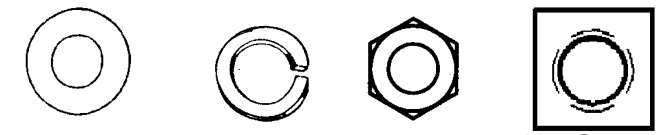


Mounting Rear Foot

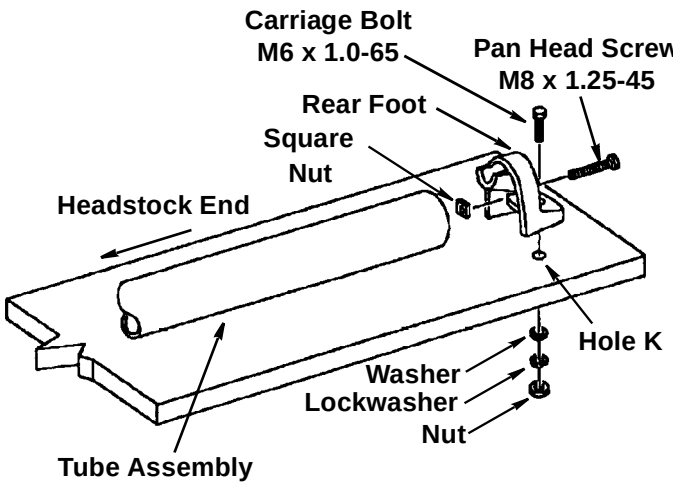
1. Locate the following:
   - 1 M8 x 1.25-45 Pan Head Screw
   - 1 M8 x 1.25 Square Nut
   - 1 M6 x 1.0-65 Carriage Bolt
   - 1 6.5 x 19 x 1.6 Flat Washer
   - 1 6mm Lockwasher
   - 1 M6 x 1.0 Hex Nut







2. Install the rear foot onto the tube as shown and tighten rear foot locking screw. Foot will wedge into plate as screw is tightened. This may take several attempts.
3. Attach the rear foot on the right side table board, hole labeled K. Secure in place with bolt, washer, lockwasher and nut as shown.

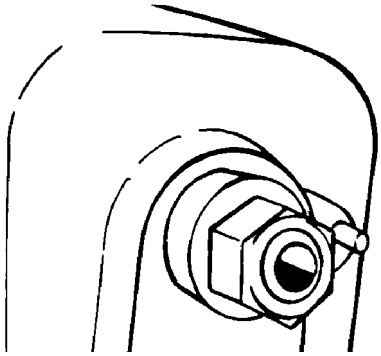


Spur and Cup Center Installation

1. From the loose parts package find the following:
   - 1 3/4-16 Hex Nut
   - 1 Spur Center
   - 1 Cup Center

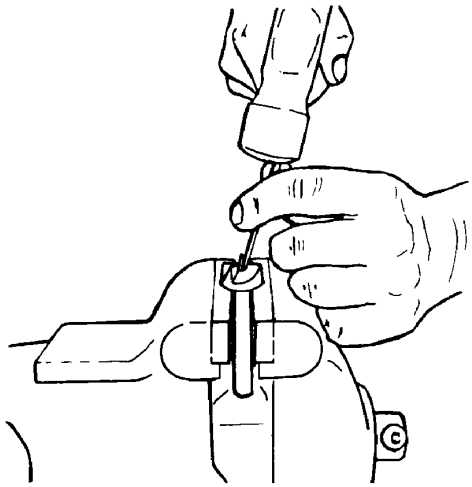
Hex Nut 3/4-16

2. Screw nut onto head stock spindle until finger tight.



3. To insert point into centers, place center between jaws of a vise. Do not tighten vice. Insert point into center and with a hammer and nail gently tap around the base of the point until secure.

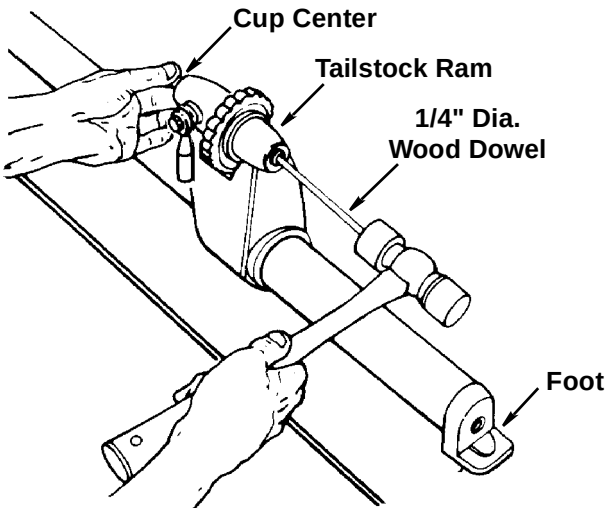
NOTE: A piece of cloth may be wrapped around the centers to protect them before inserting into a vise.



4. Insert spur center into head stock spindle and cup center into tailstock ram.

NOTE: Do not drive or hammer centers into spindle or ram as removal may be difficult. Use a soft hammer or block of wood and give them a gentle tap.

5. To remove spur center from spindle, hold the spindle pulley with one hand, and, using a wrench, turn the hex nut counterclockwise until center is ejected. Do not use index pin to hold pulley.
6. To remove cup center insert a 1/4" dia. wood dowel or brass rod through the hole in the tailstock ram. Hold the center with one hand and tap the dowel or rod with a hammer.



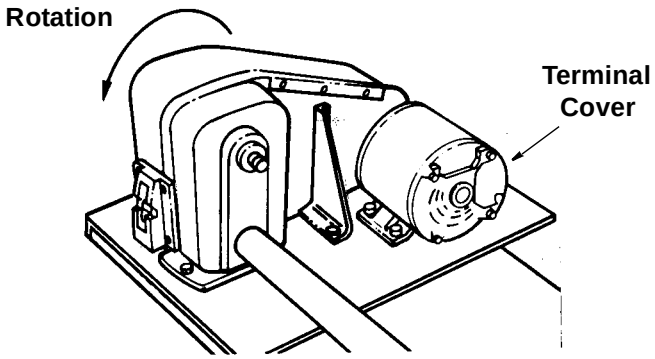
Assembly (continued)

Check Spindle Rotation

The lathe spindle must rotate counterclockwise when viewed from the spindle end.

NOTE: Make sure the spur center is removed from the spindle.

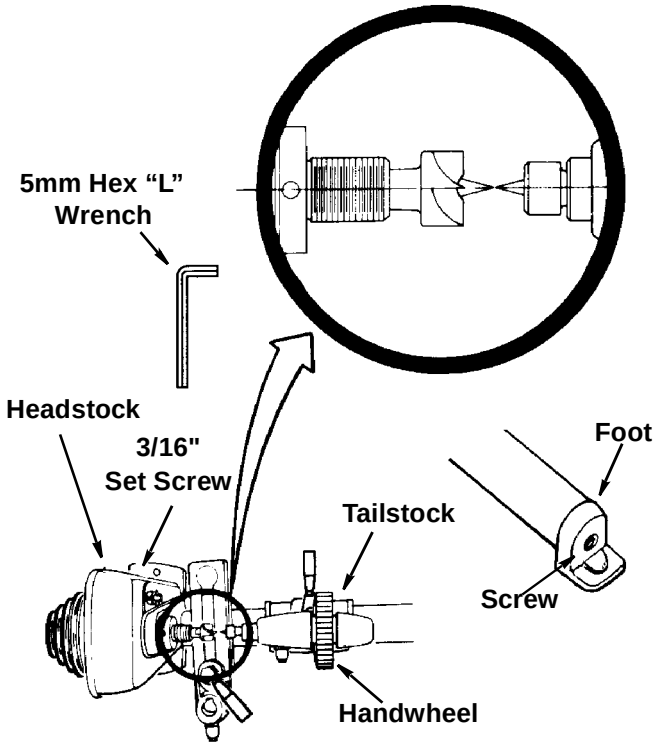
1. Plug the lathe power cord into a properly grounded outlet (See page 5)
2. Stand clear of the lathe spindle and turn the switch **On.** Notice the rotation of the spindle. If it is **Not** turning **Counterclockwise** contact your Authorized Service Center immediately before using this tool.



Aligning Centers

If the centers are not in line as shown, make the following adjustments.

1. Make sure the tailstock and ram are locked when checking for alignment.
2. Loosen the screw in the foot... **Tap** the screw to loosen the locknut inside.
3. Using a 5mm hex “L” wrench, loosen the setscrew on the back of the headstock. The screw is located about 1-3/4" from the bottom.
4. Swing the tailstock so that the two points are in line... tighten the setscrew in the headstock and the screw in the end of the tailstock.

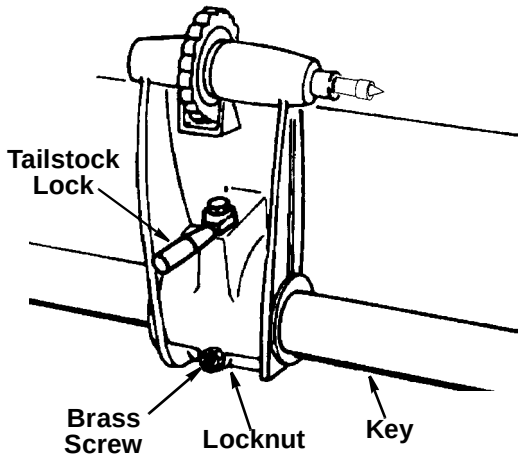


Adjusting Tailstock

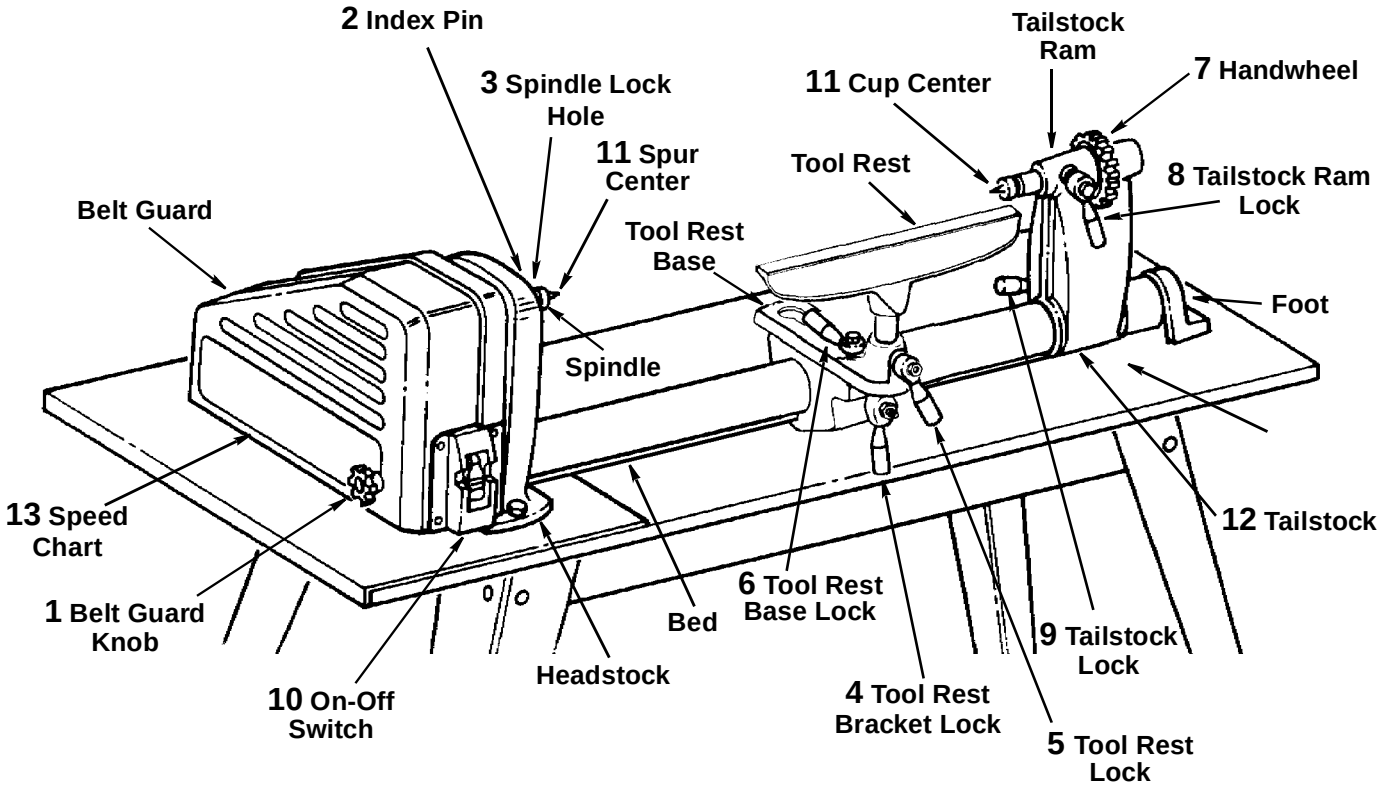
The tailstock contains a brass screw which bears against the "key" on the underside of the bed. This screw prevents excessive "looseness" (rocking back and forth) of the tailstock.

1. Loosen the locknut using a 13mm wrench.
2. Tighten the screw moderately against the key, then loosen it about 1/4 turn.

Slide the tailstock along the bed. If it does not stick or bind in any one spot, tighten the nut. If it binds or sticks, loosen the screw only enough so that the tailstock slides smoothly along the bed.



Getting To Know Your Wood Lathe



1. **Belt Guard Knob...** Locks the hinged part of the guard during operation.
2. **Index Pin...** Engages with the spindle pulley to determine equal spacing for cuts for fluting or reeding, or for dividing face plate work. **Do Not Use For Removing Faceplates**.
3. **Spindle Lock Hole...** For removing faceplates or sanding discs. Insert a hex "L" wrench, large nail or bolt in the hole to hold the spindle while unscrewing faceplate or sanding disc.
4. **Tool Rest Bracket Lock...** Clamps the tool rest bracket to the bed.
5. **Tool Rest Lock...** Clamps the tool rest to the tool rest base.
6. **Tool Rest Base Lock...** Clamps the tool rest base to the bed.
7. **Handwheel...** Adjusts the tailstock ram.
8. **Tailstock Ram Lock...** Clamps the ram in the tailstock.
9. **Tailstock Lock...** Clamps the tailstock to the bed.
10. **On-off Switch**
11. **Spur Center And Cup Center...** are used for spindle turning and should always be in alignment.
12. **Tailstock...**supports the workpiece for spindle turning.
13. **Speed Chart**... indicates general recommended speeds for various sizes of workpieces.

Getting To Know Your Wood Lathe (continued)

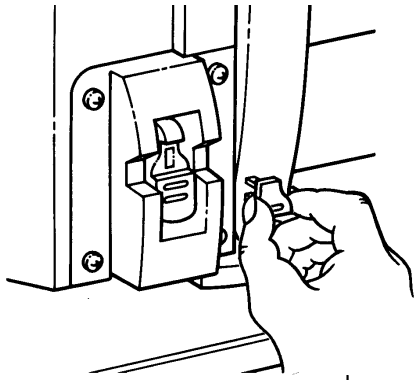
On-off Switch

WARNING: Don't connect power cord to electrical outlet in your shop until you are sure that motor rotation is correct (see page 6).

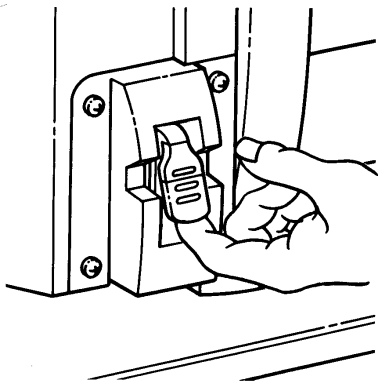
The On-Off Switch has a locking feature. **This Feature Is Intended To Prevent Unauthorized And Possible Hazardous Use By Children And Others.**

1. Insert key into switch.

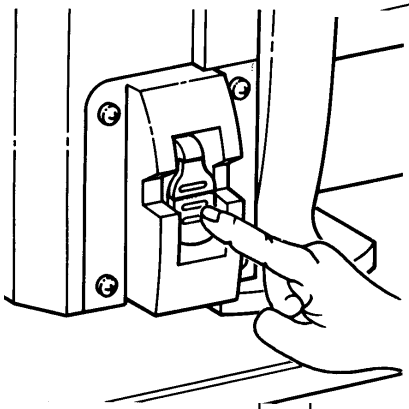
NOTE: Key is made of yellow plastic.



2. To turn lathe **On... Insert** finger under switch lever and pull **End** of switch out.



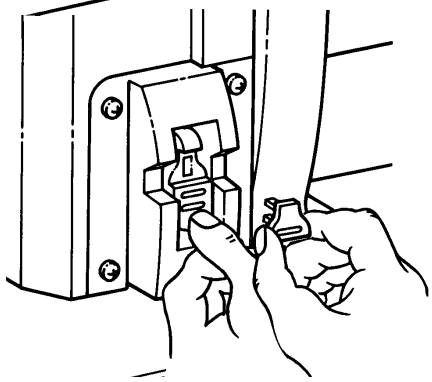
3. To turn lathe **Off... Push** lever in.



Never leave the lathe unattended until it has come to a complete stop and you have removed the switch key.

Do not cycle the motor switch on and off rapidly, as this may cause the faceplate or sanding disc to loosen. In the event this should ever occur, stand clear of the face plate or sanding disc until it has come to a complete stop... re-tighten it.

4. To lock switch in **Off** position... **Hold** switch **In** with one hand, **Remove** key with other hand.



WARNING: For your own safety, always lock the switch "OFF". When lathe is not in use... remove key and keep it in a safe place... also... in the event of a power failure (all of your lights go out) turn switch off... lock it and remove the key. This will prevent the lathe from starting up again when the power comes back on.

Speed Chart

WARNING: Always use lowest speed when starting a new workpiece, using faceplate, or turning between centers to avoid possible injury.

SPINDLE SPEED
VELOCIDAD DEL HUSILLO / VITESSE D'ARBRE

875	2250
1350	3450

RECOMMENDED GENERAL SPEEDS
VELOCIDADES GENERALES RECOMENDADS / RECOMMENDED GENERAL SPEEDS

SPINDLE TURNING / TORNEADO CON HUSILLO / TOURAGE SUR AXE	SQUARE DIA. DIA. CUAD. CARRÉ	LENGTH LONGITUD LONGUEUR	ROUGHING DESBASTADO DÉGROSSISSAGE	FINISHING ACABADO FINISSAGE
	1"	12"	1350	3450
	2"	18"	875	2250
	3"	27"	875	2250
	4"	36"	875	2250

FACE TURNING / TORNEADO CON PLATO LISO / TOURAGE SUR LE PLATEAU	DIAMETER DIA. DIAM. CUAD. DIAMÈTRE	LENGTH LONGITUD LONGUEUR	ROUGHING DESBASTADO DÉGROSSISSAGE	FINISHING ACABADO FINISSAGE
	12"	4" MAX	875	1350
	16"	4" MAX	1350	2250
	8"	4" MAX	1350	2250
	8"	4" MAX	2250	3450

Basic Lathe Operations

WARNING: For your own safety, turn switch "OFF" and remove plug from power source outlet before making any adjustments.

Changing Speeds

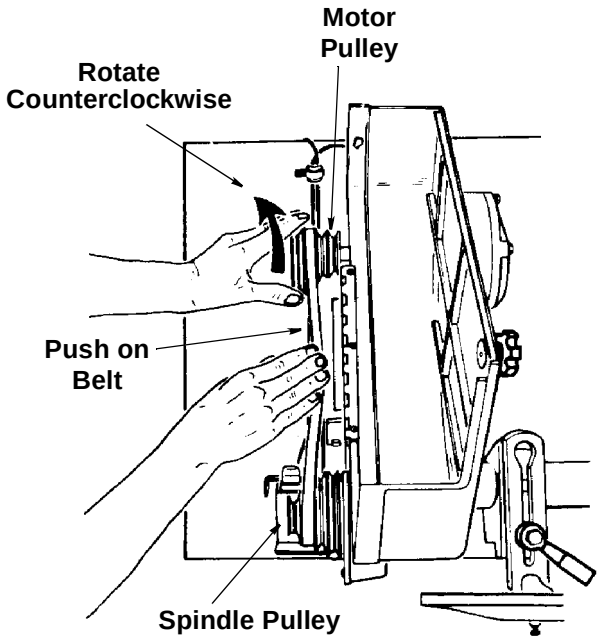
The belt is shown positioned on the second steps from the outside end of the pulleys. This causes the lathe to run 2250 R.P.M.

Suppose you wish to run the lathe slower - say, 1350 R.P.M. You must shift the belt inward.

1. Make sure the power cord is removed from the outlet.
2. With the belt guard raised, rotate the motor pulley **Counterclockwise** with your left hand while pushing on the belt with your right hand.
3. Continue to rotate the pulley while pushing on the belt until it "climbs" down into the third step of the motor pulley.
4. Now rotate the spindle pulley **Clockwise** with your right hand while pushing on the belt with your left hand. The belt will climb up into the third step of the spindle pulley.

To make the lathe go faster, the belt must be shifted outward.

1. Rotate the spindle pulley **Clockwise** with your right hand. Pull on the belt while rotating the pulley until it climbs down into the next smaller step.
2. Now rotate the motor pulley **Counterclockwise** with your left hand while pulling on the belt with your right hand. The belt will climb up into the next larger step.



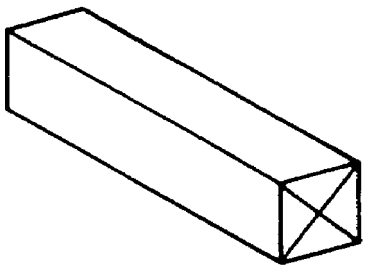
Basic Lathe Operations (continued)

Spindle Turning

WARNING: For your own safety, turn switch "OFF" and remove switch key before mounting workpiece in lathe.

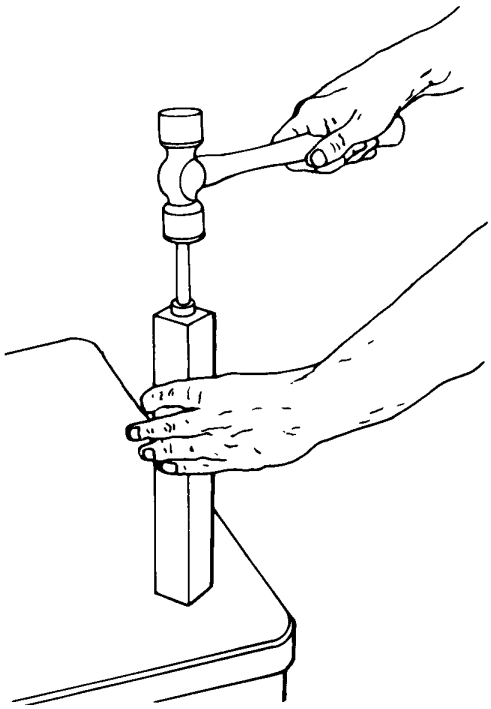
If you have never done any amount of wood turning, we suggest that you practice using the various wood turning tools. Start with a small spindle turning.

Be sure to study the "**How To...**" section of this manual. It explains and illustrates the correct use of the turning stools, the positioning of the tool rest and other information to help you gain experience.



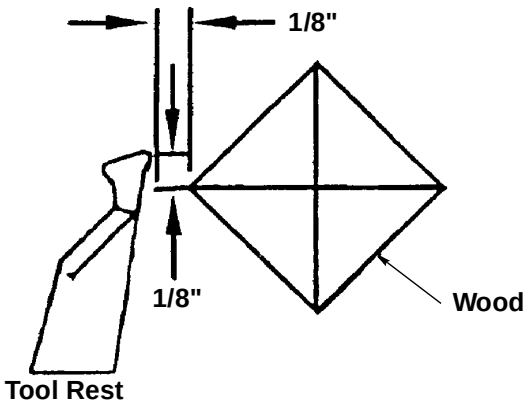
Diagonal Lines on Both Ends

1. Carefully inspect and select a piece of wood 2" x 2" x 12" and always use wood free of checks, splits, cracks or knots.
2. Draw diagonal lines on each end to locate the centers.
3. On one end, make a sawcut approximately 1/16" deep on each diagonal line. This is for the spur center.
4. The other end is for the cup center. Place the point of the cup center on the wood where the diagonal lines cross.
5. Drive the cup center into the wood. Use a wooden mallet or a plastic hammer. If you don't have one, use a steel hammer, but put a piece of wood on the end of the cup center to protect it.
6. Remove the cup center and drive the spur center into the other end of the wood. Make sure the spurs are in the saw cuts. Remove the spur center.
7. Make sure the centers and the hole in the spindle and the tailstock ram are clean. Insert the spur center into the headstock and the cup center into the tailstock and tap them in lightly with a piece of wood. Do not drive them in.
8. Put a drop of oil or wax on the wood where it contacts the cup center. This will lubricate the wood while it is turning.
9. Place the wood between the centers and lock the tailstock.



WARNING: Be sure the spur center and cup center are firmly seated against the workpiece and that the tailstock is securely locked in place.

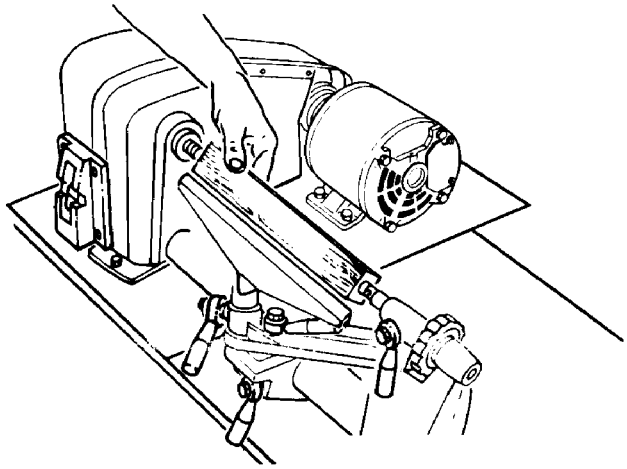
10. Move the cup center into the wood by turning the hand wheel. Make sure that the cup center and spur center are "seated" into the wood in the holes made in steps 5 and 6 above. Rotate the wood by hand while turning the hand wheel.
11. Adjust the tool rest approximately 1/8" away from the corners of the wood and 1/8" above the center line. Note the angled position of the tool rest base.



WARNING: For your own safety, after adjusting the tool rest be sure and lock the tool rest base and the tool rest.

Look at the speed chart. Notice that a 2" square turning up to 18" long should run at 875 R.P.M. for "roughing". Move the V- belt on the pulleys to the slowest speed as outlined under "Changing Speeds" section.

WARNING: For your own safety rotate the wood by hand to make sure that the corners do not strike the tool rest or anything else before turning the lathe "ON". Always be sure the workpiece is properly mounted and the lathe is set at the proper speed (RPM).

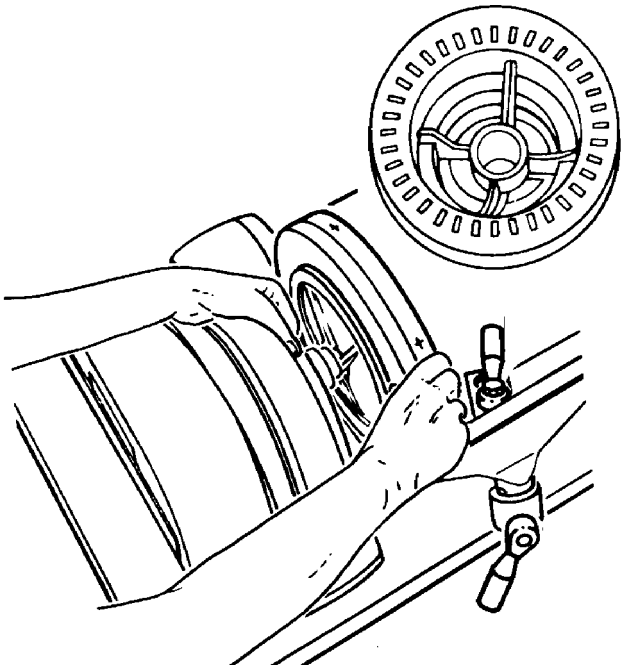


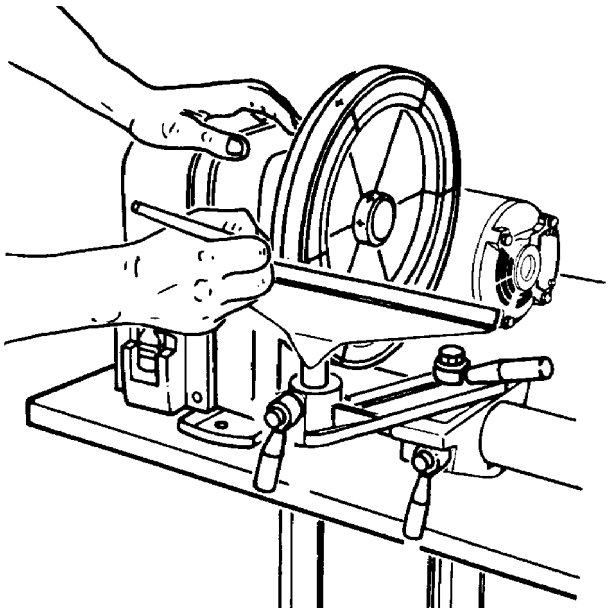
Indexing

The spindle pulley contains 36 equally spaced holes. The index pin engages with these holes to keep the spindle from turning while you put a mark on the workpiece.

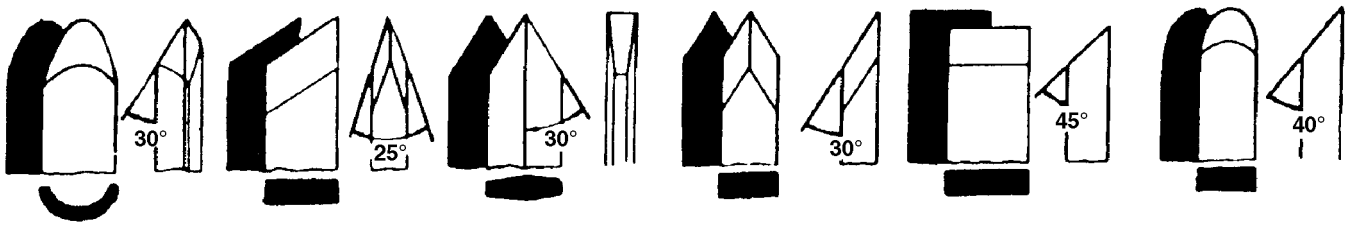
For example: To locate the position of six spokes in a wheel:

1. Pull the index pin outward and turn it so that the small cross pin slips into the slot. This will allow the index pin to engage in one of the holes in the pulley and prevent the spindle from turning.
2. Adjust the tool rest approximately at the centerline and make a mark.
3. Pull out the index pin and slowly rotate the workpiece until the pin slides into the next hole in the pulley.
4. Do this six times and put the next mark on the workpiece. The two marks will be spaced 60° apart. Continue this operation until six spokes are marked 60° apart.
5. Spindle turnings can be divided in the same manner.





Woodworking Chisels and How to Use Them



Gouge | Skew | Parting Tool | Spear Point | Flat Nose | Round Nose

The Six Commonly Used Chisel Types

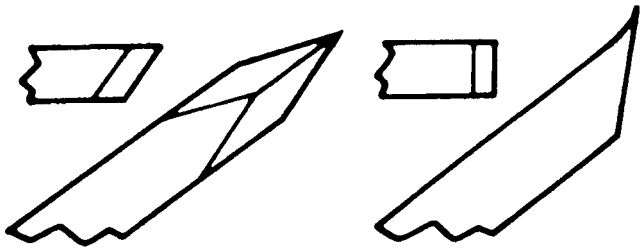
Selection Of Chisels

Better chisels have handles approximately 10-in. long, to provide plenty of grip and leverage. Sharp tools are essential for clean, easy work... buy tools that will take and hold keen edges.

Theory Of Turning

The Two Classes of Chisels

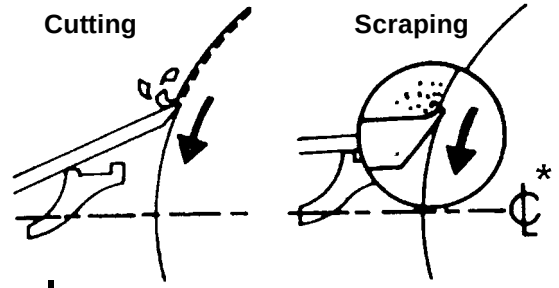
These are: 1) Chisels intended primarily for cutting, and 2) chisels used only for scraping. The cutting chisels are the gouge, skew and parting tool. These are the most used. They are commonly sharpened to a razor edge by honing on both sides. The scraping chisels are the flatnose, round nose and spear point. These are not honed on the flat sides - the wire edges produced by grinding are left on to aid in the scraping process.



Cutting Chisel | Scraping Chisel

Cutting and Scraping

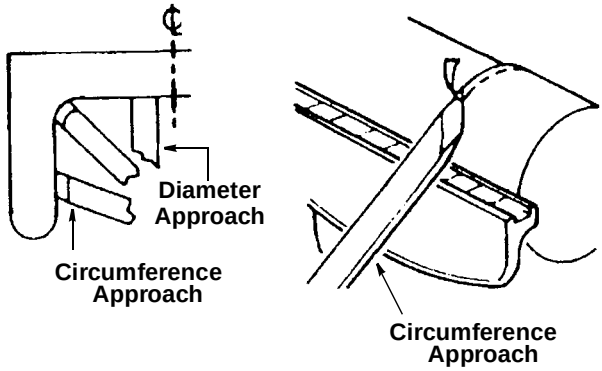
To cut, the chisel is held so that the sharp edge actually digs into the revolving work to peel off shavings. To scrape, the chisel is held at a right angle to the work surface, and removes fine particles instead of shavings. Many operations require that the cutting chisels be used for scraping; but scraping chisels are practically never used for cutting. Scraping dulls a chisel much faster, especially the razor sharp cutting chisels. Cutting is faster than scraping and produces a smoother finish which requires less sanding. However, it is far more difficult to master. Scraping, on the other hand, is far more precise and easier to control.

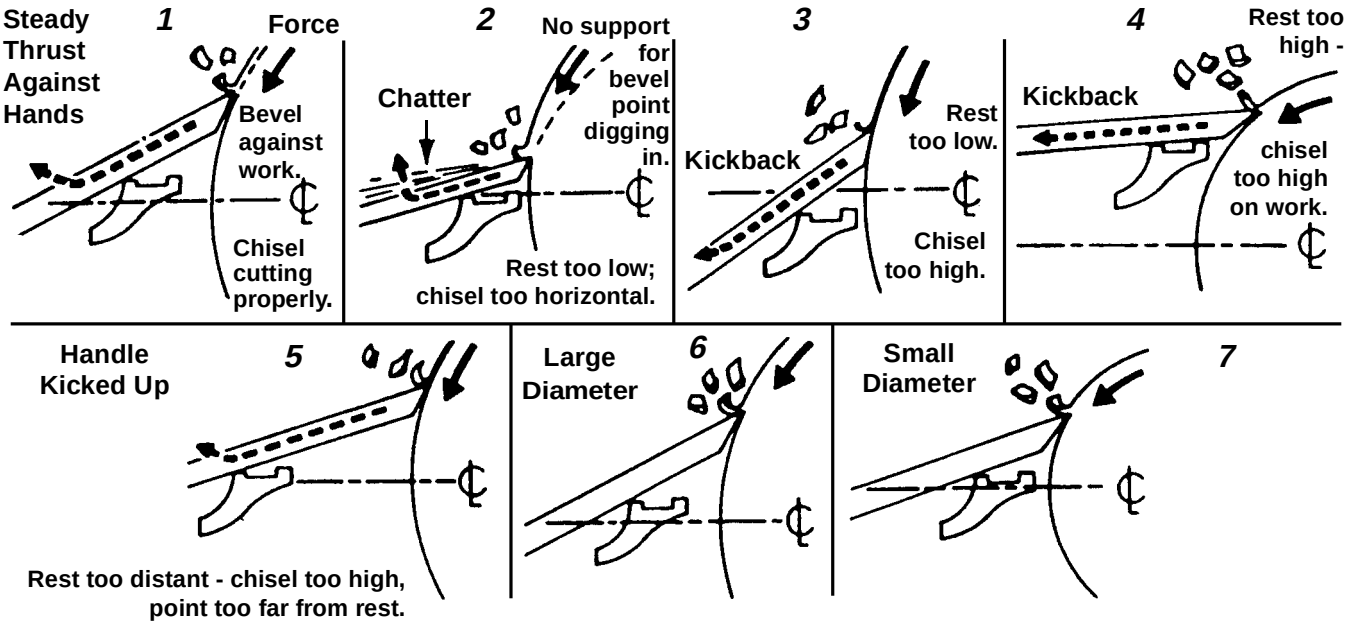


* ℄ Means Center Line of the workpiece

When You Can Cut, and When You Must Scrape

There are two different approaches to the work when turning. One approach is toward a circumference of the workpiece (for example, turning down the outer surface of a cylinder or the inner wall of a hollow round box). In this approach, the surface being turned travels under the chisel edge like an endless belt. The second approach is toward the diameter of a workpiece (as when turning the face of a faceplate turning, or the side of a large shoulder on a spindle turning). In this approach the surface being turned rotates like a disc under the chisel edge. Sometimes the approach will be a combination of both.





Either a cutting or scraping action can be used when the approach is toward a circumference - the shaving is removed like a peeling from a potato. Scraping, only, can be used when the approach is toward a diameter. The reason is obvious when you consider that faceplate turning practically always requires removal of wood across the grain. Wood does not peel easily across the grain, and attempts to use cutting methods will likely result in damage to the work and throwing of the chisel by the work.

It follows that a cutting action is used for the general run of spindle turning operations...while the major part of a faceplate turning is done by the scraping method. When a combination approach is to be used, you will have to judge, by the feel of the work, when to stop cutting and start scraping. **Never** try to cut when it becomes difficult to hold the chisel against the roughness of the wood grain.

How to Position Tool Rest for Circumference Cutting

When cutting, the object is to pierce the outer skin of wood to a certain desired depth, then to hold the chisel steady, with the bevel edge parallel to the work circumference, so that it will peel off a shaving at this desired depth. The only sure method of holding the chisel steady is to rest the bevel against the work, as shown in sketch 1. When the tool rest is at the proper height (sketch 1), the chisel can be held with the bevel pressed against the work, and the tool rest will act as a fulcrum to support the chisel against the downward force of the revolving work.

If the rest is placed too low, so that the chisel is held with the bevel out from the work (sketch 2), the cutting edge will continue to dig deeper into the work. It will dig in until the "bite" becomes so deep that your hands have difficulty holding the chisel - then the improperly supported chisel will begin to bounce, or chatter, against the workpiece.

If the rest is placed too low, the chisel must be held extremely high to position the bevel against the work (sketch 3). Then the rest loses most of its value as a fulcrum, and the down ward force of the revolving workpiece tends to kick the chisel back out of your hands.

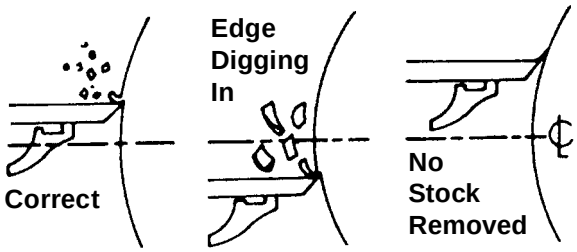
If the rest is placed too high (sketch 4) and the chisel is correctly positioned for cutting, it strikes the workpiece near the top where the direction of force exerted by the workpiece is nearly horizontal - and kickback will again result.

If the rest is placed too far out from the work surface (sketch 5) - then, when correctly held, the chisel is again too high on the work. Also, you have less leverage on your side of the tool rest - and it is even more difficult to hold the chisel.

With large diameter work (sketch 6), the tool rest can be above the workpiece centerline, and somewhat out from the work surface. With small diameter work (sketch 7), the rest should be lowered almost to the centerline, and should not be far from the work surface. As work grows smaller, the rest should be repositioned.

How to Position Tool Rest for Circumference Scraping

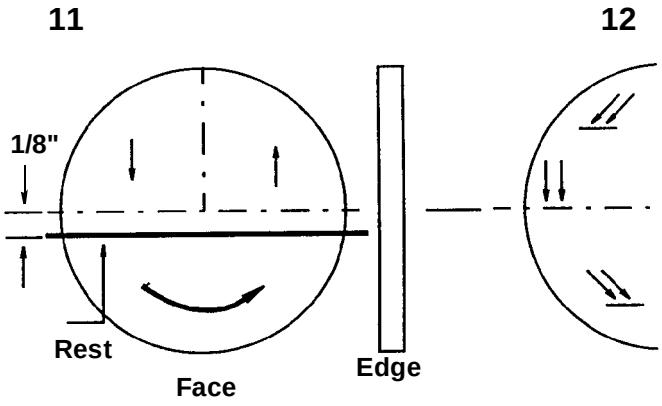
In scraping operations, the tool rest position is not as critical as it is for cutting operations. The chisel generally is held horizontally, though it can be held at an angle to reach into tight places. Considering that the wire edge of the chisel does the scraping, sketches 9 and 10 show the results of too low or too high a position for the rest; and sketch 8 shows the chisel action with the rest correctly positioned.



How to Position Chisel and Rest for Diameter Scraping

When scraping on the diameter, that portion of surface to the right of center is moving upward (sketch 11). If chisel is placed in this area, it will simply be carried up off the rest and out of your hands. All diameter approach operations must be done at the left of center.

Three different chisel contact points are shown in sketch 12. It will be noted that, when chisel is above the workpiece center, or below it, the work surface sweeps past the chisel edge at an angle and tends to carry the chisel in one direction or the other along the rest. Only when the chisel contacts the work on the centerline does the work surface pass squarely under the chisel edge. This, then, is the position in which it is easiest to hold the chisel steady. To obtain this position, place the rest approximately 1/8-inch (thickness of chisel) below center.

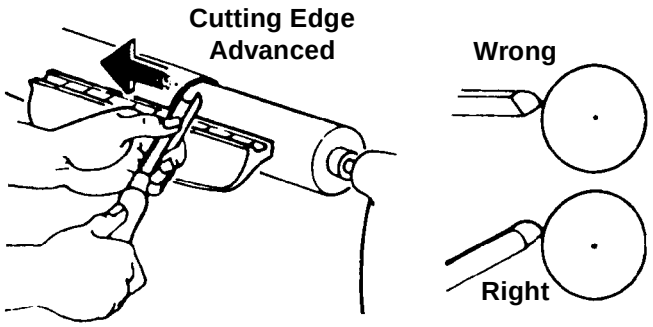


Using The Gouge

Three gouges, the 1/4-, 1/2- and 3/4-in. sizes, are ample for general homeshop turning; but other sizes from 1/8- to 2-in. can be purchased.

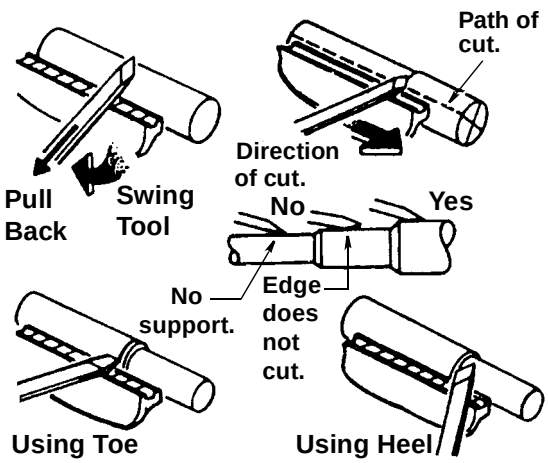
The chief use of the gouge is for rough circumference cutting of raw stock down to a cylinder of working size. It is the best tool to use for rapid cutting away of large areas of the workpiece; but when so used does not produce a smooth surface. With practice, it can be used for cutting coves and the shaping of long cuts - is also useful for scraping.

When used for cutting, the gouge is always held with the convex side down. It should be rolled approximately 30° to 45° in the direction in which it is being advanced along the rest; and the cutting edge should be a little in advance of the handle.



Using The Skew

Two skews, the 1/2- and 1-in. sizes, are all that are needed for general use. Other sizes are available. This tool is nearly always used to make finish cuts, to cut vees and beads, and to square shoulders. Properly used, it produces the best finish that can be obtained with a chisel. It should be used but little for scraping, as this quickly dulls it. For finish cutting, the skew is held with the cutting edge considerably in advance of the handle, bevel side down. Keep the base of the bevel against the work. Good practice is to place the skew well over the work, pull it back until the edge begins to cut, then swing the, handle into position to advance the cut. Both the toe and the heel of the skew can be used for taking light cuts; but do not penetrate the wood too deeply without cutting clearances, as there is danger of burning the tip of the tool.

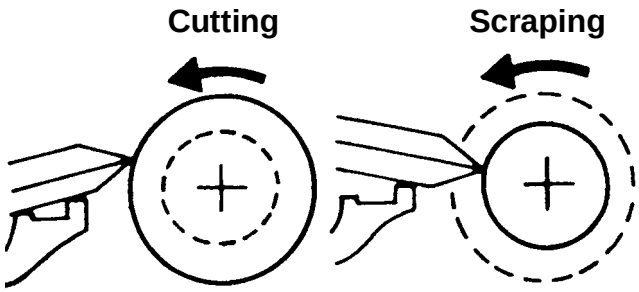


Using The Parting Tool

The parting tool has just one primary purpose: to cut straight into the workpiece as deep as desired, or all the way through to make a cut-off. It is therefore a very narrow tool - 1/8-in. wide - and is shaped to cut its own clearance so that the edge will not be burned. When used for scraping, however, it should be backed off regularly to prevent overheating.

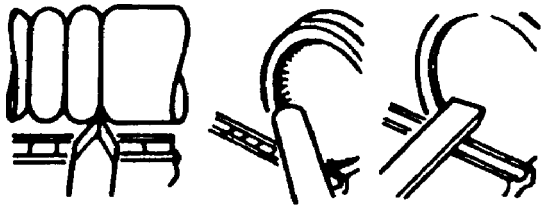
Unlike the gouge and skew, the parting tool is seldom held with the bevel against the work. As the amount of stock removed is small, a support for the bevel is not necessary.

The tool is simply fed into the work at an angle (for cutting), or pointed at the workpiece center (for scraping). It can be held easily in one hand.



Using The Scraping Chisels

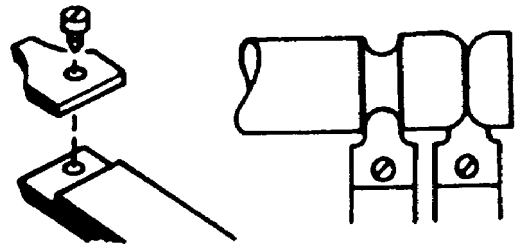
A 1/2-in. wide spear point chisel, a 1/2-in. wide round nose chisel, and a 1 -in. wide flatnose chisel complete the list of tools ordinarily used by home craftsmen. Each of these scraping chisels can be purchased in various other sizes for special purposes. All are very useful for diameter scraping operations and for circumference scraping when cutting methods cannot be employed. The spear point is used for fine scraping and delicate operations, such as the forming of beads, parallel grooves and shallow vees. Edges and bowl contours can be rounded with the round nose chisel. Any flat surface can be scraped with the flatnose chisel.



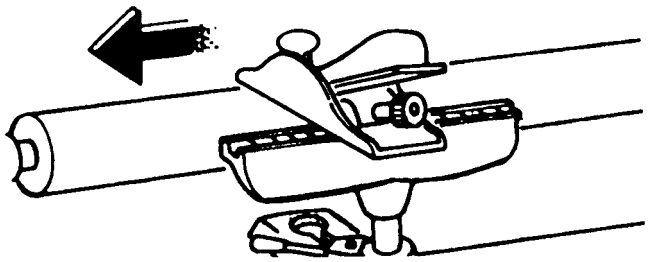
Using Shaper Or Moulding Knives

An old chisel can be made to serve as a holder for shaper or moulding knives. Such knives make it possible to scrape many interesting shapes in the workpiece surface in one or two operations, instead of the many operations required with standard chisels. It is generally not practical to use cutting methods with special shape tools; scraping methods should be used. The holder should provide a shoulder against which the butt end of the knife can be firmly seated; and the knife must be securely mounted, either by means of a screw threaded into the holder, or by compressing it between two prongs bolted together.

Clear, glass-smooth finishes (especially on soft-woods) can be obtained by using a block plane set to take a fine shaving. The tool rest should be raised up approximately to the top of the workpiece - and the plane should be horizontal, but turned slightly in the direction of travel so that it will take a shearing cut. Two tool rests, one in front and the other behind the work, can be used to advantage in positioning the plane so as to exactly limit the depth of cut (and finished size of the workpiece).

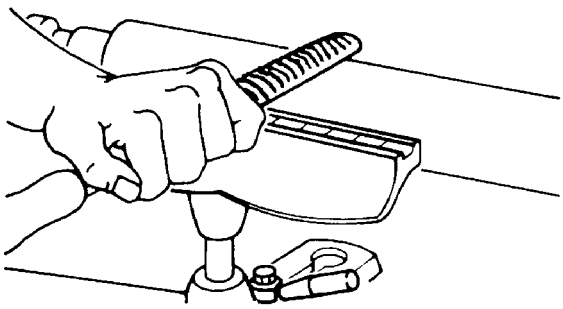


Using a Block Plane



Using Wood Rasps And Files

A wood rasp will remove stock quickly when held against the revolving workpiece. Care should be taken to support the rasp firmly against the tool rest, however, as it can tear the hands painfully if caught by a rough edge of the workpiece and kicked back. The rasp will leave a very rough finish. Finer finishes (similar to those produced by scraping) can be obtained by using files in the same manner. Various shape files can be used for shaping vees, beads, coves, etc. If pressed into the wood too hard, however, a file can burn the workpiece surface. Keep the file clean to keep it cutting uniformly. Files work best on hardwoods.



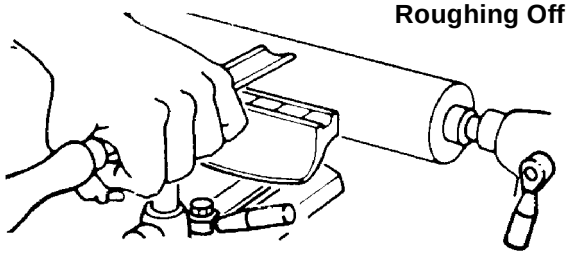
Hand Positions

WARNING: Keep firm hold and control of the turning tool at all times. Avoid awkward hand positions where a sudden slip could cause a hand to move into the workpiece.

In handling all of the chisels the handle hand takes a natural position, being nearer or farther from the end depending upon the amount of leverage required. The position of the tool rest hand is a matter of individual liking; but there are three generally accepted positions, each best for certain types of operations.

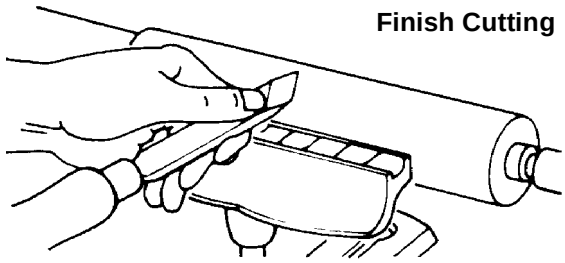
Roughing-off and other heavy work requires a firm grip and solid positioning of the chisel against the rest. This is best obtained by the tool-rest hand position illustrated. The wrist is dropped down so that the heel of the hand below the little finger acts as a sliding guide against the rest. The handle hand controls chisel position.

Roughing Off



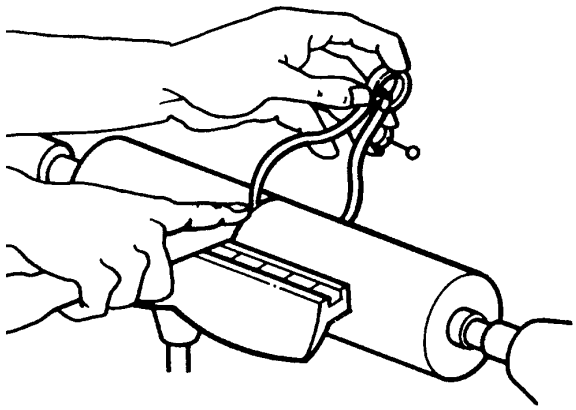
Finish cutting requires more control, with less force - and is better done with the palm of the tool-rest hand turned up. The wrist is still held down, and the side of the index finger acts as a guide along the rest. In this position, control of the chisel is shared by both hands, the fingers of the tool-rest hand being free to assist in positioning the tool.

Finish Cutting



The first and second positions are equally good for scraping operations; but the third position is practically never used for scraping.

Many scraping operations and cutting to depth with the parting tool can be done with one hand. The chisel is grasped firmly, with the index finger on top press it down against the rest - and is thrust straight into the work. Holding the tool thus leaves the other hand free to hold a pattern, calipers, etc., to check work progress.



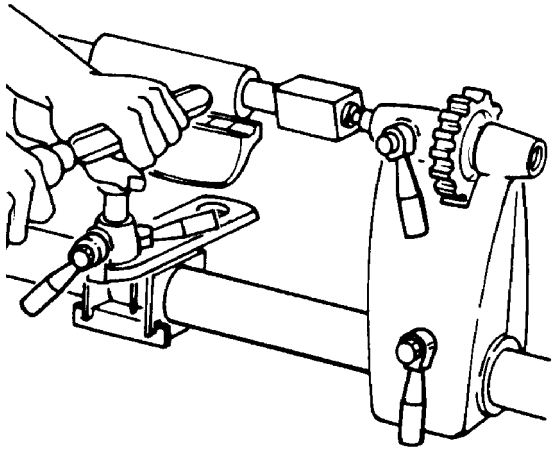
Making Standard Cuts

The Roughing-off Cut

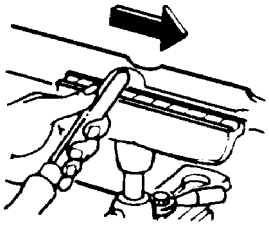
Reducing a square or odd-shaped workpiece down to a cylinder of approximate size for finish turning is called “Roughing-off”. Faceplate turning and large diameter spindles should first be partly reduced by sawing but small spindles are easily turned down entirely with the large (3/4-in.) gouge.

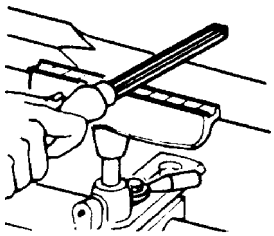
Start the first cut about 2-in. from tailstock end - then run it toward the tailstock and off the end of the workpiece. Next, start another cut 2-in. nearer the headstock - and run it, also, toward tailstock, to merge with first cut. Continue in this manner until 2- to 4-in. from the headstock end, then reverse the direction of tool travel and work one or two cuts in succession toward the headstock, and off this end of the workpiece. **NOTE**: Never start a cut directly at the end -if the chisel catches the end, it will damage the workpiece. Never take long cuts while corners remain on the work, as this tends to tear long slivers from the corners.

The first series of cuts should not be too deep. It is better to partially reduce the work to a cylinder all along its length; then start a second series of cuts to complete reducing it to a cylinder. Once a cylinder has been formed, step lathe up to the next faster speed. Further reductions in size can now be carried out by cutting as deeply as desired at any spot along the work. At this stage, long cuts, from the center off either end, can also be taken. Roughing-off generally is continued until the cylinder is approximately 1/8-in larger than the desired finish size. Roundness can be tested by laying the gouge on top of the work - it will not ride up and down when cylinder is perfectly round.



First Cuts





Testing Roundness

Rough-cutting To Size

The roughing-off cut can be made to accurately size the cylinder to a given diameter.

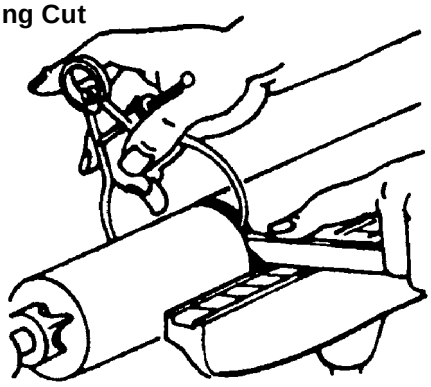
Another method is to make a number of sizing cuts at intervals along the work, then use the gouge to reduce the whole cylinder down to the diameter indicated by these cuts.

Making Sizing Cuts

Sizing cuts are useful to establish approximate finish-size diameters at various points along a workpiece. The work can then be turned down to the diameters indicated - and be ready for finishing. Diameters for sizing cuts should be planned to be about 1/8-in. greater than the desired finish diameters.

A sizing cut is made with the parting tool. Hold the tool in one hand, and use the other hand to hold an outside caliper preset to the desired sizing-cut diameter. As the cut nears completion, lower the chisel point more and more into a scraping position. When the calipers slip over the workpiece at the cut, the cut is finished.

A Sizing Cut



Smoothing A Cylinder

The final 1/8-in. can be removed in two ways. Either use the 1 -in. skew, working from center toward both ends and taking lighter and lighter cuts until finished.

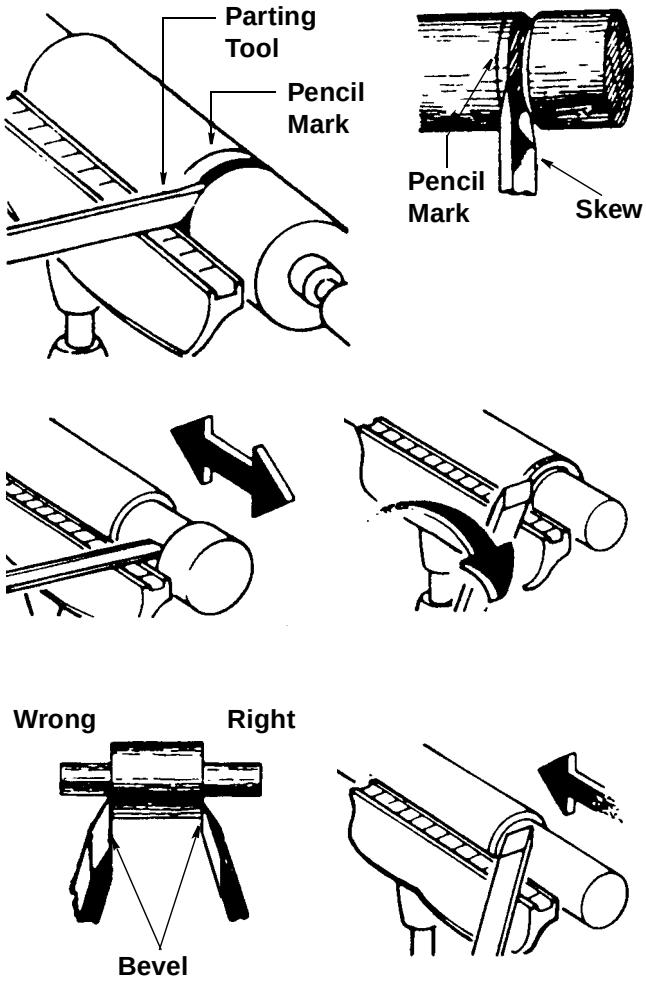
Cutting A Shoulder

A shoulder can be the side of a square portion left in the workpiece, the side of a turned section, or the end of the workpiece. Most shoulders are perpendicular to work axis; but a shoulder can be at any angle desired.

First, mark position of the shoulder with a pencil held to the revolving workpiece. Then make a sizing cut with the parting tool, placing this cut about 1/16-in. outside the shoulder position, and cutting to within about l/8-in. of the depth desired for the area outside of the shoulder. If shoulder is shallow, the toe of the skew can be used to make the sizing cut; but do not go in deeper than l/8-in. with the skew unless wider and wider vees are cut to provide clearance for this tool.

Use the gouge to remove any waste stock outside of shoulder-and smooth this section, up to within l/8-in.of the shoulder, in usual manner. Finishing of the shoulder, unless it is more than 1 -in. high, is best done with the 1/2-in. skew. First, toe of skew is used to remove thin shavings from the side of the shoulder - down to finish size. Hold skew so that bottom edge of bevel next to shoulder will be very nearly parallel to side of shoulder, but with cutting edge turned away at the top so that only the extreme toe will do the cutting. If cutting edge is flat against shoulder, the chisel will run. Start with handle low, and raise handle to advance toe into the work. Cut down to finished diameter of outside area; then clean out the corner by advancing heel of the skew into it along the surface of the outside area. Tilt the cutting edge, with handle raised up, so that only the extreme heel does this cutting.

If shoulder is at end of work, the process is called squaring the end. In this case, reduce outer portion to a diameter about 1/4-in. larger than tool center diameter, then later saw off the waste stock.

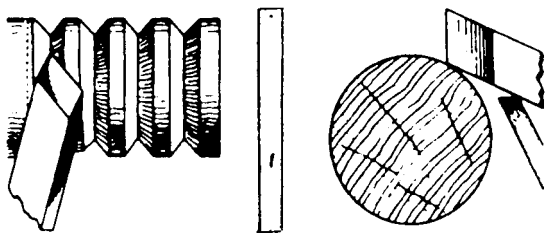


Cutting Vees

Vee grooves can be cut with either the toe or heel of the skew. When the toe is used, the cutting action is exactly the same as in trimming a shoulder - except that the skew is tilted to cut at the required bevel. Light cuts should be taken on first one side then the other, gradually enlarging the vee to the required depth and width.

When the heel is used, the skew is rotated down into the work, using the rest as a pivot. Otherwise, cutting position and sequence of cuts is the same. As when using the toe, it is important that cutting be done only by extreme end of cutting edge.

If deep vees are planned, it is quicker to start them by making a sizing cut at the center of each vee. Vees can also be scraped with the spear point chisel or a three-sided file.

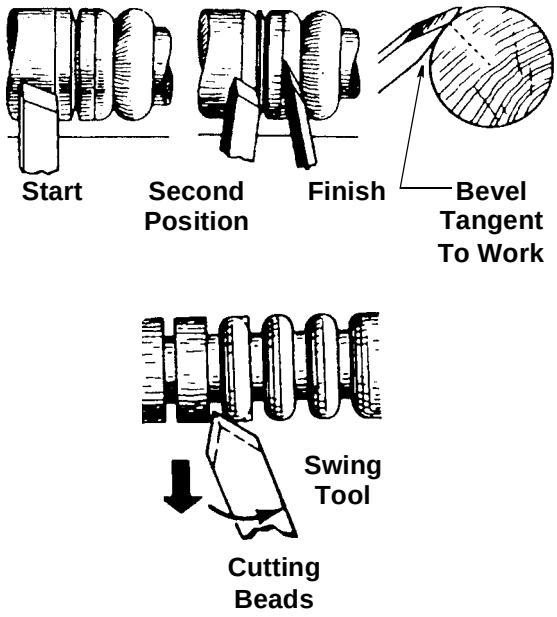


Cutting Beads

This requires considerable practice, First, make pencil lines to locate the tops (highest points) of two or more adjoining beads. Then make a vee groove at the exact center between two lines - and down to the desired depth of the separation between the beads. Be careful not to make the groove too wide or you will remove portions of the desired beads. The sides of the two adjoining beads are now cut with the heel of the skew - preferably 1/2-in. size, unless beads are quite large. Place skew at right angles with the work axis, flat against surface and well up near the top. The extreme heel should be just inside the pencil line that marks the top of the bead. Now draw skew straight back while raising handle slowly - until edge of the heel at the pencil line starts to cut.As edge begins to cut, roll skew in the direction of the vee - so that the exact portion of the edge which started cutting will travel in a 90° arc down to bottom of the vee. Upon reaching bottom of the vee, the skew should be on edge. Reverse the movements to cut side of the adjacent bead.

It is important that only the extreme heel should do the cutting. This means that the bottom edge of the bevel next to the vee must at all times be tangent to the arc of the bead being formed.

Easier beads can be shaped with the spear point chisel. Use pencil marks and sizing cuts as before. Push the chisel straight into each cut and rotate it horizontally to round off the adjacent edges. It must be moved slightly in the direction of rotation at the same time, to keep the point from digging into the adjacent bead.



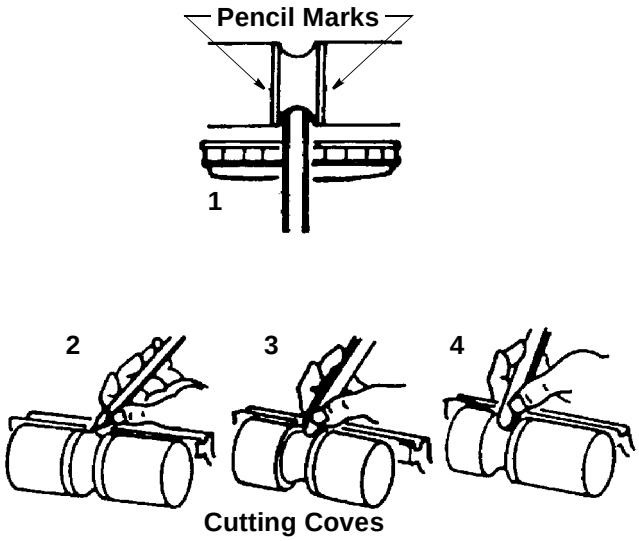
Cutting Coves (Concaves)

This is the most difficult single cut to master - but one of the most important in good wood turning. First, use pencil marks to indicate the edges. Then, rough it out - to within about 1/8-in. of the desired finish surface - by scraping with the gouge or round nose chisel. If the cove is to be very wide, sizing cuts can be made to plot the roughing out. Once it is roughed out, the cove can be finished in two cuts - one from each side to the bottom center.

At the start of either cut, gouge is held with handle high and the two sides of blade held between the thumb and forefinger of tool-rest hand, just behind the bevel.Position the fingers ready to roll the blade into cove. Hold blade so that bevel is at a 90° angle to the work axis, with point touching the pencil line and pointed into work axis.

From this start, depress point slightly to start cut, then continue to move point down in an arc toward the bottom center of cove-at the same time rolling chisel uniformly so that, at the end of the cut, it will be flat at bottom of the cove. The object is to keep the extreme point of gouge doing the cutting from start to finish. Reverse movements to cut the opposite side.

Coves also can be scraped to finish, using the round nose chisel or a rattail file - but these methods do not generally produce perfectly curved coves.

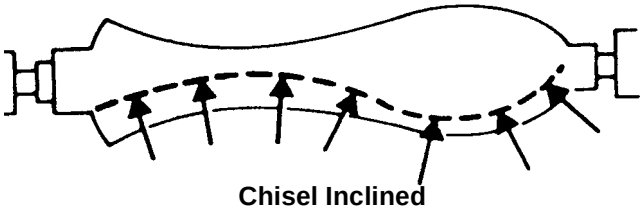


How to Use Your RIDGID Wood Lathe (continued)

Making Long Convex Cuts

First turn work down to approximate size, using sizing cuts (as required) to determine various diameters. Finish cut can then be made with either skew or gouge.

If the skew is used, the principles of the operation are the same as those employed in cutting a bead - except that curve is longer and may be irregular. Use the extreme heel throughout - start at longer end of curve (if curve is irregular) and progress toward steeper end. If gouge is used, make cut in the same direction. Start with the handle well back of point-swinging handle in the direction of tool travel to overtake the point, if necessary, when the steep part of the curve is reached. Object is to keep extreme point during the cutting throughout - with bevel as tangent to curve as possible.



Chisel Inclined in Direction of Cut

Making Long Taper Cuts

Long taper cuts are made like long convex cuts, with the skew or gouge. However, the angle between the cutting edge and handle is kept constant during the entire cut. The handle is not swung around. Always cut downhill. Do not cut too deeply at the center of the taper.

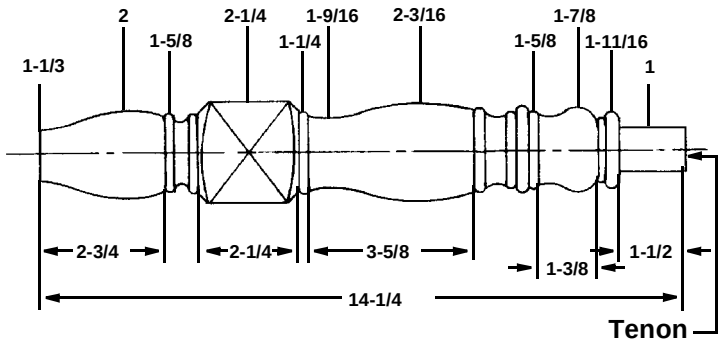
How To Handle Spindle Turnings

Plotting The Shape

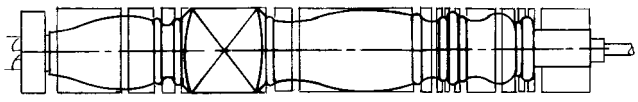
Once the basic cuts have been mastered, you are ready to turn out finished work. The first step is to prepare a plan for the proposed turning. This can be laid out on a suitable sheet of paper - and should be to full size. Next, prepare the turning stock by squaring it up to the size of the largest square or round section in your plan. The stock can be cut to the exact length of the proposed turning; but, in most cases, it is best to leave the stock a little long at one or both ends to allow for trimming.

Mount the stock in the lathe, and rough it off to a maximum size cylinder. Now project your plan onto the turning by marking the various critical dimensions along the length of the spindle in pencil. These dimensions can be laid out with an ordinary ruler - or by using a template. Make the pencil marks about 1/2-in. long - they will then be visible when the work is revolved under power, and can be quickly traced around the spindle by touching each line with the pencil.

After marking, use the parting tool to make sizing cuts at all of the important shoulders. When learning, you will find it best to make many sizing cuts to accurately plot the various diameters; but experienced workers can do with a few such cuts at the important shoulders. Plan each sizing cut so that it is in waste stock; and make each deep enough so that there will be just enough wood left under the cut for the finishing process. Once the sizing cuts have been run in, rough-out the excess wood with a gouge - then proceed with the finishing process by making the various types of cuts required.



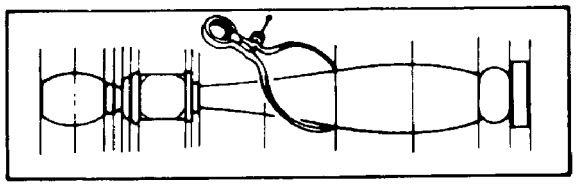
NOTE: All Measurements In Inches



Sizing Cuts

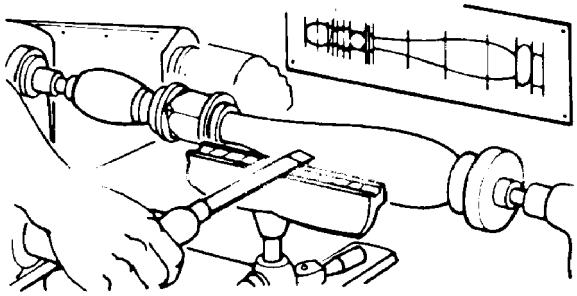
Duplicate Turnings

Identical turnings require great accuracy when plotting the work and doing the various cuts. Many methods have been devised to aid in perfecting the work.



Use of Patterns

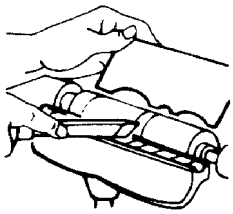
Professional workers generally use a pattern, or layout board. This is a thin piece of wood or cardboard on which is drawn a full- size half section of the turning. The contour of the finished surface is drawn first; then the diameters at various critical points are drawn to scale as vertical lines intersecting the contour line. By placing the pattern against the roughed-off cylinder, you can quickly mark the various points of the critical diameters. To make each sizing cut, use outside calipers and set these by actually measuring the length of the vertical line on the pattern which represents the diameter desired. Then make the sizing cut, down to the proper diameter by using the calipers to determine when the cut is finished. After making the sizing cuts, hang the pattern behind the lathe where it will serve as a guide for completion of the workpiece.



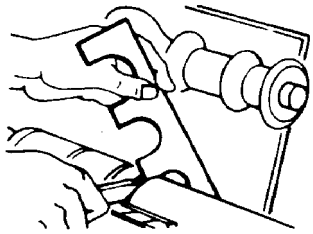
Using a Template and a Diameter Board

When many identical turnings are to be produced, it is a convenience to have a prepared template. This can be made of thin wood or cardboard - and is cut on a band saw or scroll saw to have the exact contour of the finished turning. The number one finished turning can also be used as a template. Attach the template to a board; then mount the board behind the lathe, on hinges, so that the template can be moved down to touch the workpiece and allow you to closely observe progress of your work.

If a great many turnings are being produced, a diameter board will save the time used for resetting calipers. This is simply a thin board along the edge of which a number of semicircular cuts have been prepared to represent all the various caliper settings required for measuring the sizing cuts. Each semicircular cut is held against the workpiece instead of using the calipers.



Using a Template

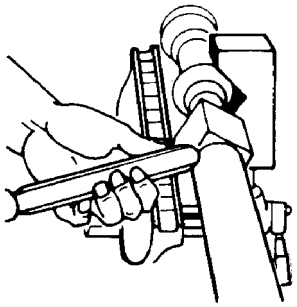


Using a Diameter Board

Long Spindles

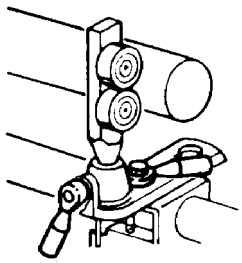
A long turning can be worked in short sections, with joints arranged to be at shoulders where they will not be noticed.

Long thin work that is likely to whip while turning should be supported at one or two places by a backstick. This is easy to make. A simple one consists of a short length of wood mounted vertically in an extra tool rest, and notched so that it can be used to support the spindle from behind. An improved type - which uses 2 roller skate wheels to form the notch - also is shown.



Use Of Backsticks (Not provided)

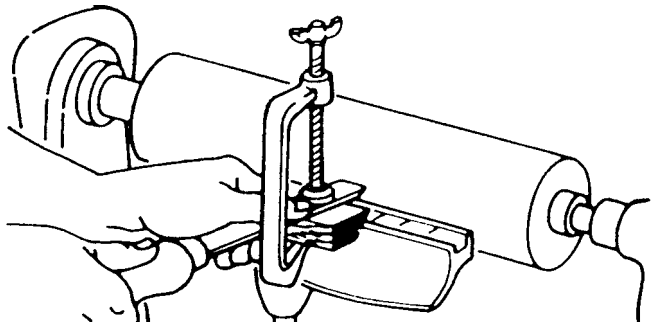
Position the backstick against a pre-turned portion near the center of the spindle, this portion being at least 1/8-in. over finish size to allow for later removal of any marks made upon it. Operate lathe at a slower speed than normal. Lubricate the workpiece at point of contact with the backstick, using beeswax (preferably), lard or grease. After completing the turning, remove the backstick and finish off the original point of contact. Sand off any slight burns remaining on workpiece.



Miscellaneous Operations

Guide Blocks For Scraping Operations

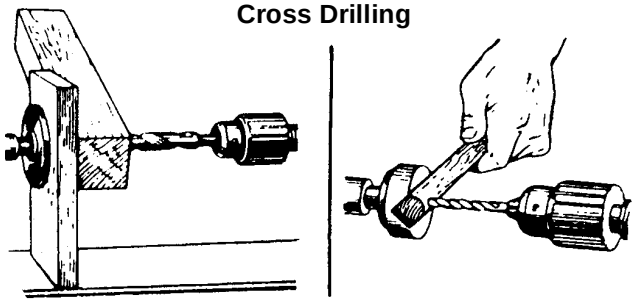
A guide block can be clamped to a chisel to limit the depth of cut and aid in the production of perfect cylinders, tapers and facings on faceplate turnings. Scraping methods must be used when the guide block is employed.



Drilling

For cross drilling flat sided work, use a (metal-lathe) drill pad in the tailstock and place a scrap board between the pad and the work. For cross drilling round stock, use a (metal lathe) crotch center in the tailstock. Work in which it is desired to drill random holes can be positioned as desired on supporting blocks laid upon the lathe bed. It can be held by hand - or can be supported from behind by a drill pad mounted in the tailstock. (Lathe chuck and bits sold separately.)

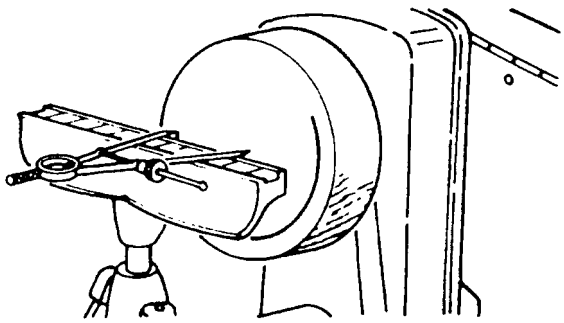
Cross Drilling



Faceplate & Chuck Turnings

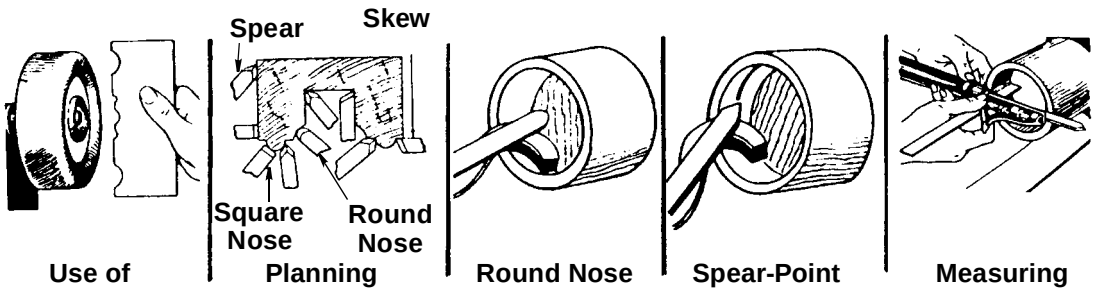
Planning The Work

Make a layout first, to provide a visual pattern to follow while working the turning. Patterns can be laid out in the same manner as spindle patterns - or templates can be made which can be held against the work for visual comparison. Circles to locate the various critical points (at which the contours of the faceplate take distinct form) can be quickly scribed on the rotating work by using the dividers.



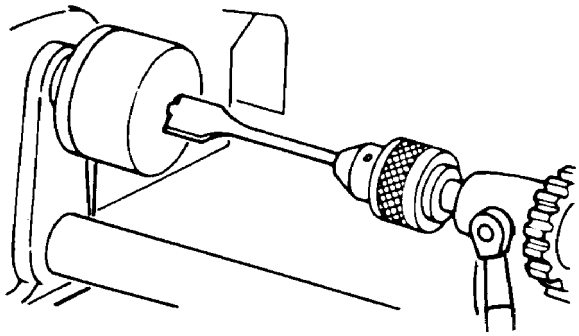
Planning Various Cuts

The circumference of a faceplate turning is roughed-off and finished in the same manner that a spindle is worked. Practically all of the balance of the operations, however, are done by using scraping methods. A few of the standard contours which must often be turned are illustrated in the accompanying sketch - which also shows the proper chisels for shaping these contours. Any roughing-out to depth that must be done is generally accomplished with the gouge held in the scraping position.



Deep Recesses

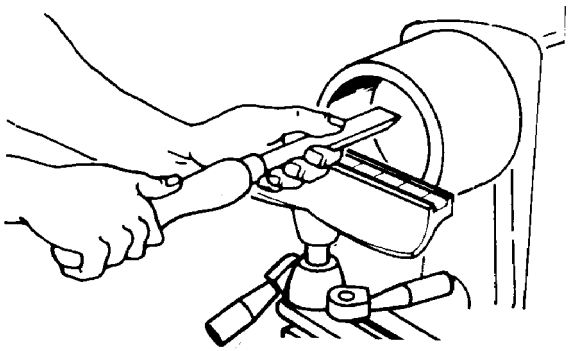
The first step is to remove as much wood as possible by boring into the center with the largest wood bit available. This can be accomplished as illustrated. Be careful to measure in advance the depth to which drill can be allowed to go.



Now remove the bulk of the waste (to rough-out the desired recess) by scraping with the roundnose chisel or the gouge. Remove up to within 1/8-in. of finished size in this manner. Finish off the inside circumference by scraping with the spear-point chisel or skew. Smooth the bottom of the recess by scraping it flat with the flatnose chisel.

Proper support must be provided at all times for the scraping chisels. Several tool rest positions are shown in the accompanying illustrations. Always endeavor to position the part of the rest that supports the tool as close to the working surface as possible.

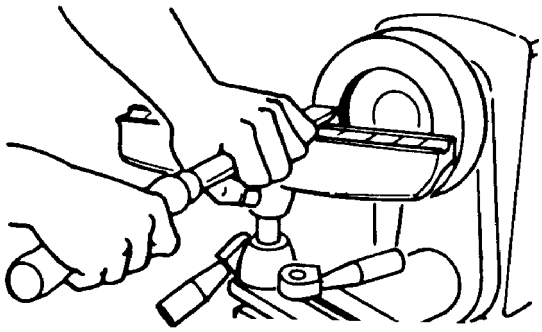
The depth and squareness of the sides of the recess can be quickly checked by holding one of the straight sided chisels and a combination square as shown.

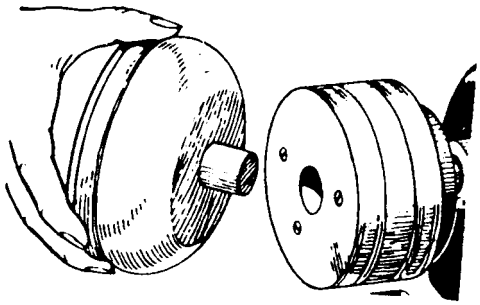


How To Make Fancy Faceplate Turnings

Preparing A Plug Chuck

A plug chuck is an auxiliary wood chuck mounted onto a faceplate. The chuck can be any size in diameter - should be about 2-1/2- in. thick for stability - and should be provided with a 3/4- or 7/8-in. hole in the center for receiving a tenon turned at the end of the workpiece. Once made, such chucks are permanent useful fixtures for turning balls, goblets, etc. In use, the wood stock for turning is turned between centers to produce a tenon at one end which will be a driving fit in the hole of the chuck. When mounted in the chuck, the workpiece is substantially supported for any faceplate type of turning.

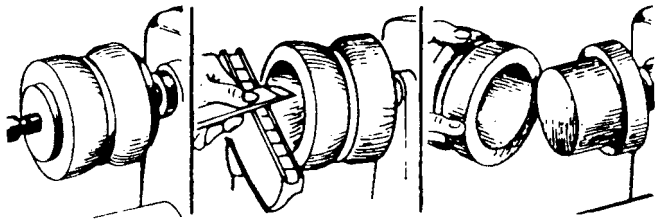




Turning Cylinders

Stock for cylinders should be mounted on the screw center or a small faceplate. The tailstock can be brought up to support the work while the circumference is being turned and finished. Afterwards, the tailstock is backed off and the outer end of the cylinder is recessed, using methods already described for making deep recesses.

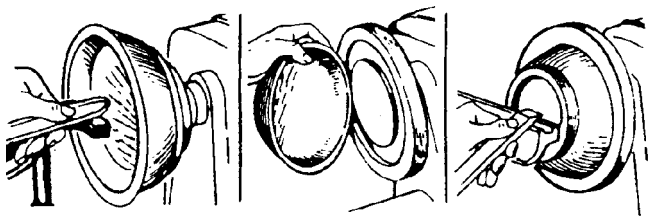
After making a recess at least 1/2 of the way through the workpiece, and finishing this on the inside, remove the workpiece from the lathe. Now mount a short length of softwood stock on the screw center and turn this down to form a dowel that will be a tight press (not driving) fit inside the recessed end of the cylinder. Mount the cylinder on this wooden chuck, and recess the unworked end deep enough to form a perfect hole through the entire cylinder.



Rechucking

Rechucking is the general term used to describe any additional work mounting that is necessary to complete a turning project. The method of working cylinders, and the use of a plug chuck as already described, are typical examples. Another good example is the rechucking of a bowl.

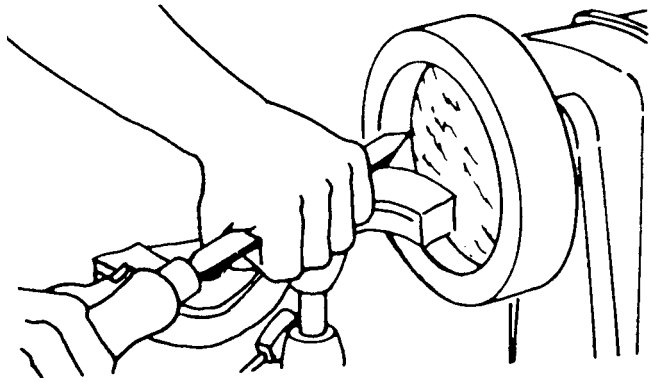
The work is first mounted on a wood backing block secured to the large faceplate, and is turned in the usual manner all except the back side (which is against the mounting block). It is then removed from the mounting block. An auxiliary chuck of softwood is now made in the same manner that the cylinder chuck is made. This chuck must have a turned recess properly sized to accommodate the rim of the bowl in a tight press fit. When the bowl is mounted in this chuck, the bottom can be cleaned off and slightly recessed to complete the desired contours.

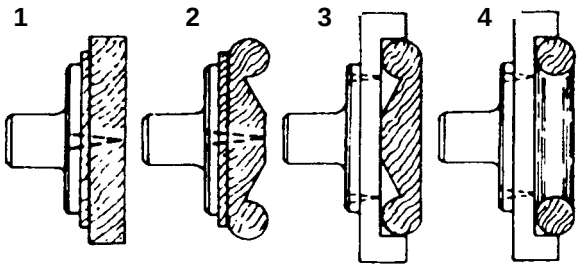


Turning A Ring

One method of turning a ring requires a spindle chuck. The work stock is first mounted to a backing block held by the large faceplate, and is turned to shape on the outer side. The inside diameter of the ring is also shaped, all the way through to the backing block. The work is then removed from the backing block. A spindle chuck is now prepared so that it will be a tight press fit inside the ring, and the ring is reversed and mounted on this chuck. Thus mounted, the remaining contours can be turned to shape.

Another method of turning a ring makes use of a recessed chuck. The work stock is mounted on a screw center and one half of the ring is formed; but the ring is not cut away from its center. The stock is then removed, and a recessed chuck - mounted on the large faceplate - is prepared to receive the ring in a tight press fit. After being chucked, the remaining face of the ring can be turned to the proper contour, thus cutting away the center portion. In work of this type take constant measurements - or better still, use a template - to guard against over or under cutting.

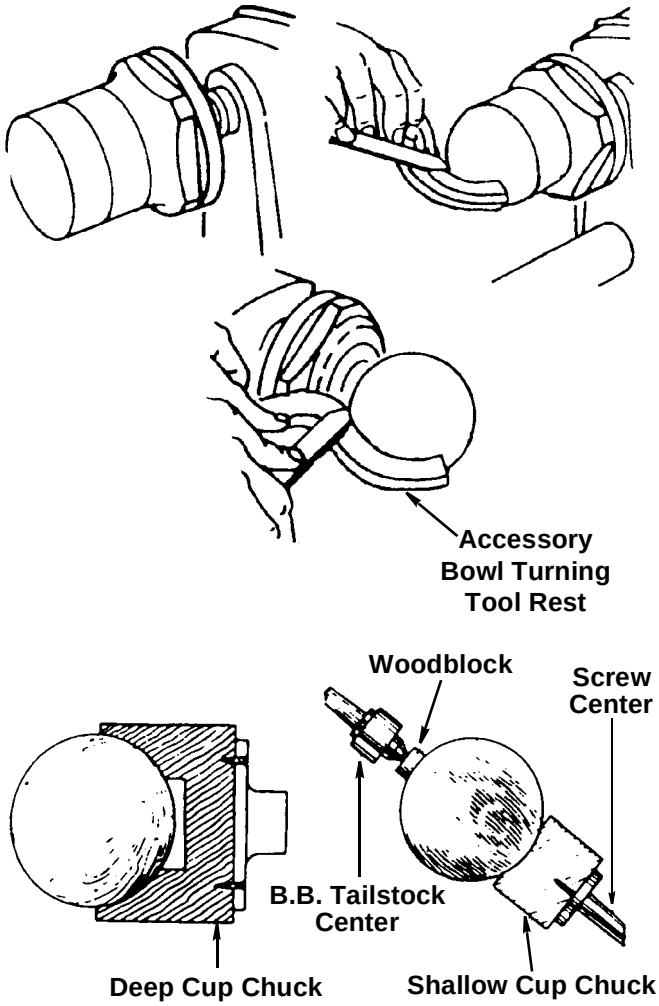




Turning Balls

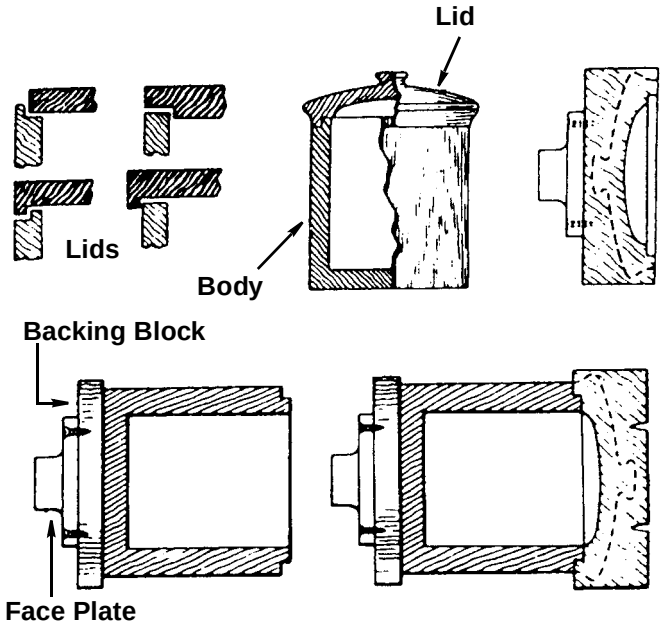
Wooden balls of large size are first roughly turned between centers, using standard procedures. Smaller balls can be mounted as faceplates on the small faceplate or screw center. Lines drawn to indicate the center and ends of the ball shape are helpful in plotting the curve. A template should always be used for accurate visual observation of the work progress.

If the ball is mounted as a faceplate turning, almost the entire surface can be turned before it becomes necessary to rechuck it. Rechucking can be accomplished in a deep cup chuck which will hold the finished portion of the ball in a tight press fit. Another method of rechucking is to use a shallow cup chuck which will not support the ball alone, but must be used in conjunction with the tailstock. When using the shallow chuck, a wood block is fitted to the tailstock so that the ball can revolve upon it. This block should be lubricated with beeswax or grease. In using the shallow chuck method, the ball is constantly shifted - never more than 1/8 turn - and always with a definite system. Since turning between centers makes the work a perfect sphere across the grain, the ball must be mounted in the chuck so that the first scraping cuts will round it up in the opposite direction.



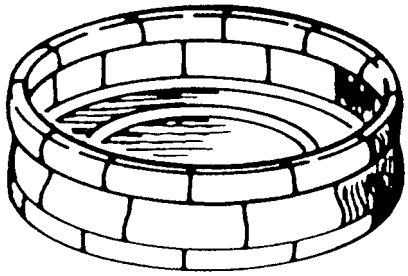
Turned Boxes

Turned boxes involve deep recessing together with a special system of working the lid and body of the box together as one unit. The inside of the lid is turned first. Next, the inside of the body is turned. A careful check must be made when turning the lip of the body portion so that the lid will be a tight press fit. The lid is then pressed onto the body and the outer circumference and face of the lid, together with the outer circumference of the body, are turned all at one time. This insures accurate matching of the two pieces. After the work is complete, the tight fit of the lid can be relieved by sanding the lip of the body.



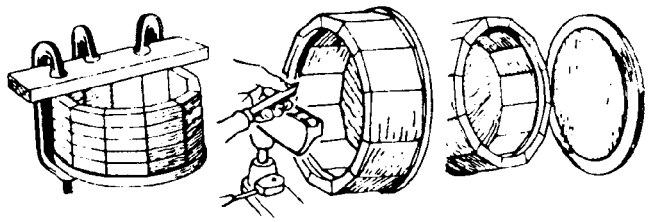
Segmented Turnings

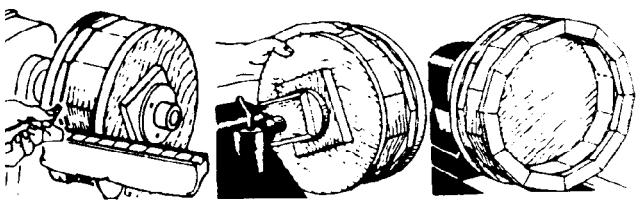
Segmented bowls and boxes are exceptionally attractive and the method of preparing the wood stock is more economical than the use of the large solid pieces. For some types of work, segmenting is the only practical method because a block (if obtainable) would be so large that it would be very likely to warp.



The bowl illustrated requires 12 segment pieces for the sides. Bowls can be worked with 6 or 8 pieces if desired. To make the 12-piece bowl, a board about 7/8x3x30 in. is cut into pieces about 2-1/2-in. long, the saw blade being tilted 15° and the board being turned alternately face up and face down to make the successive cuts. These 12 pieces are glued together and clamped by wrapping the assembly with wire. When dry, the rim thus formed is glued to a temporary circular backing which is mounted on the large faceplate.

A recess of the largest possible diameter, and about 3/4-in. deep, is turned in the open end of the rim. The rim is removed from the lathe, and stock for the bottom is mounted in its place on a second face plate. This is turned to size - and a rim about 1/8-in. deep is turned to exactly fit the recess prepared in the rim. The rim is then fitted over the bottom and glued, making a drum shape with a face plate at each end. This drum is cut completely in two at a point about 3/4-in. above the bottom - completing the cut with a hand saw. Both parts of the cut surface are faced off square and smooth - then reglued together, breaking the joints exactly half and half. The cutting and regluing process is repeated with a section about 1-1/4-in. wide. After this, the temporary backing block is cut off, leaving the bowl as shown in the final illustration.





From this point on the work is simply a matter of turning down the bowl to any desired shape.

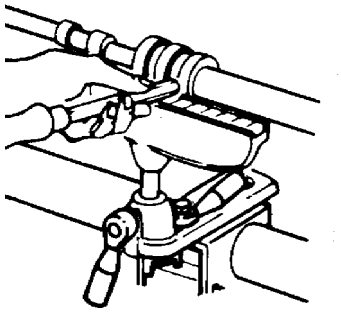
How to Turn Plastics

Types Of Plastics

There are two general groups of plastics. The first includes all phenol plastics molded under heat and pressure. Bakelite and Formica are examples. In the second are all catalyst setting plastics of various bases sold under such trade names as Lucite, Catalin, Cast Bakelite, Marblette, Tenite and Trafford. Those in the second group are most generally used for craftwork. They are easy to turn, being a little harder than wood but much softer than any of the soft metals.

Mounting The Work

Rods can be mounted between centers, using wood mounting centers. When the spur center is used, slots should be sawed across the work.



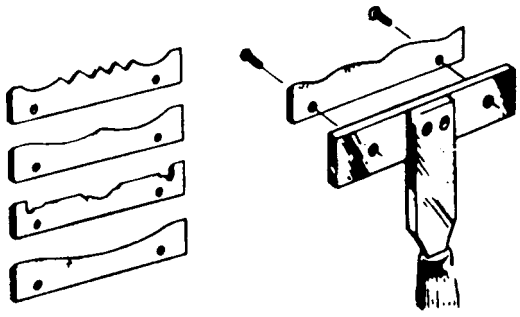
Use Of Wood Turning Chisels

Standard wood turning chisels are excellent for turning plastics by means of scraping methods. The tool rest should be slightly below center and the chisel handle should be held a little higher than the cutting edge to give a negative rake. Scraping tools should be used. The area contacted by the tool should be kept to a minimum. A large contact area, such as the full edge of the spear-point chisel, will cause chatter and probable chipping.

Properly worked, the chip comes off in a continuous ribbon. In cold weather, plastic may become brittle and should be tempered in warm water for about ten minutes before turning.

Use Of Formed Tools For Production And Similar Operations

When a number of identical pieces are to be produced, all having a distinctive surface pattern, preformed tools will speed the work and assure uniformity. Patterns like those illustrated can be created by grinding thin (.020 to .010) gauge aluminum strips. A holder, like the one shown, can then be used to support any one of your prepared strips - and guide it against the workpiece.



Polishing Plastics

Start with sanding. First use 150-grit dry paper to remove tool marks; then finish off with 150-grit and 400-grit papers, in succession, used wet. Press lightly to avoid overheating and marring of the work. Buffing gives the final polish, using the polishing compounds commonly supplied for this purpose. Do not press too hard or hold wheel at one spot too long - keep moving around - otherwise the plastic might become heat marked.

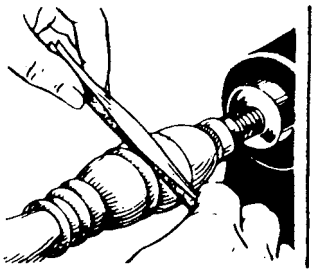
Sanding, Buffing And Polishing

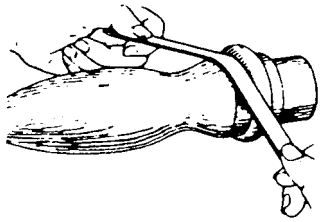
Using The Lathe To Sand Turnings

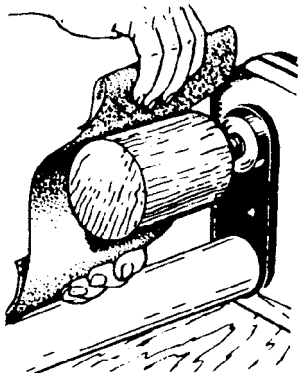
Turnings should be sanded with the lathe running in second lowest speed. A large sheet of sandpaper is useful for smoothing cylinders. All other sanding operations are done with a narrow strip of abrasive paper. The best finishing grit is 3/0 for softwoods, 4/0 for hardwoods.

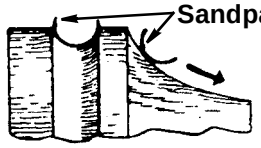
Worn 2/0 paper is often used, and is the equivalent of 3/0 or 4/0 new paper.

The application of the sandpaper strip is shown in the illustrations. Care must be exercised in order to prevent dubbing the corners of beads, shoulders, etc.

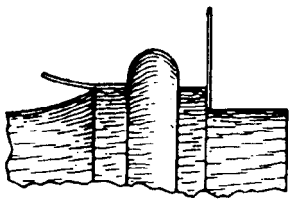


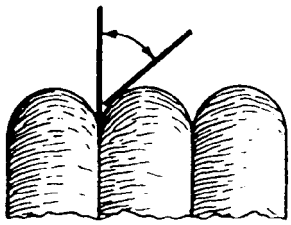


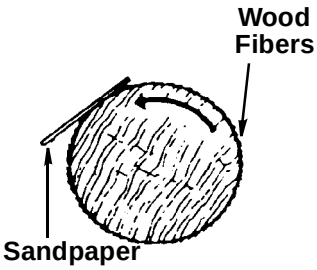




Coves







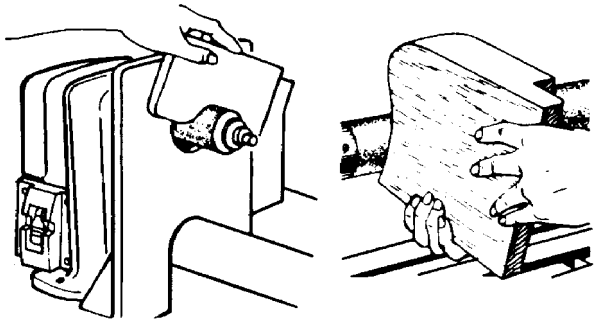
How to Use Your RIDGID Wood Lathe (continued)

Use Of Sanding Drums

Standard sanding drums are usually rubber cylinders which can be expanded to hold an abrasive sleeve in place. Similar cylinders turned on the lathe, and covered with abrasive paper glued or tacked in place, do satisfactory work. These have the advantage that special sizes, tapers, etc., can be made.

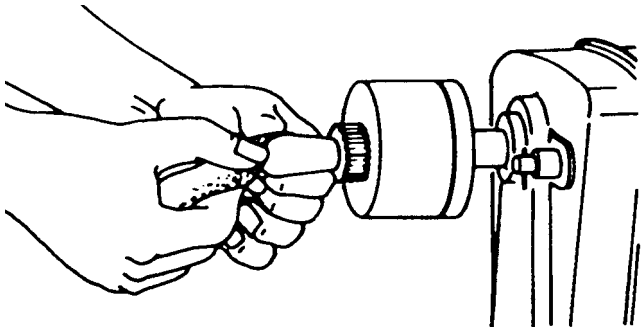
The drum is used mainly for sanding the edges of curved work. The squareness of the edge of the work can be best retained by using a simple form of vertical fence, as shown.

The standard sanding drums are commonly made with a threaded hole to fit the grinding wheel arbor. To guard against loosening of the tapered shank while the drum is in operation, it is advisable to support the free end, using either a ball bearing or plain 600 center in the tailstock.

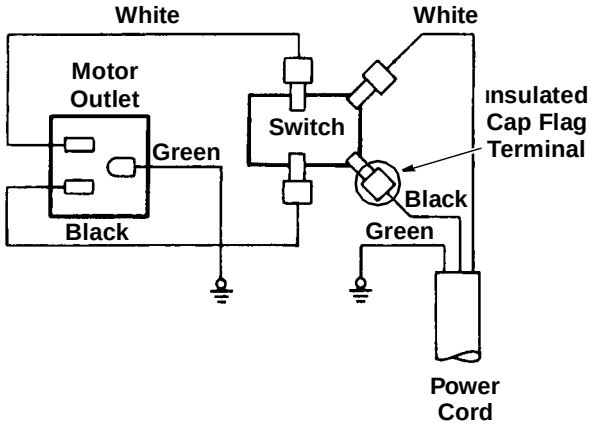


Use Of Wood Chucks For Sanding

Quick-acting chucks can be very useful for sanding operations on duplicate production parts. The chuck is made slightly oversize, and a piece of rubber hose (for small parts) is inserted in the recess to grip the workpieces.



Wiring Diagram



Maintenance

Maintenance

WARNING: For Your Own Safety, Turn Switch "OFF" And Remove Plug From Power Source Outlet Before Maintaining Or Lubricating Your Lathe.

Apply a coat of automobile-type wax to the lathe bed to help the tool rest and tailstock move freely.

Have power cord replaced if it becomes worn or frayed.

Lubrication

Periodically lubricate the ram in the tailstock with No. 20 or No. 30 engine oil.

Motor Maintenance And Lubrication

1. The bearings, in both end shields of the motor, have been lubricated at the factory with correct lubricant. No other part of the motor requires lubrication.
2. Re-lubricate motor bearings in accordance with the instructions on the nameplate. Be sure to wipe off dirt or grit if present around oil hole caps to prevent any possibility of foreign material contaminating the oil wicks that supply the bearings with oil. Use a good grade of medium weight mineral oil, such as automobile engine oil SAE 20.
3. If disassembly of the motor is necessary, it should be returned to your nearest RIDGID retail store in order to prevent voiding the guarantee.

   NOTE: The speed of this motor cannot be regulated or changed.
4. Every effort should be made to prevent foreign material from entering the motor. When operated under conditions likely to permit accumulations of dust, dirt, or waste within the motor, a visual inspection should be made at frequent intervals. Accumulations of dry dust can usually be blown out successfully.

   NOTE: Motors used on woodworking tools are particularly susceptible to the accumulation of sawdust and wood chips and should be blown out or "vacuumed" frequently to prevent interference with normal motor ventilation and proper operation of the centrifugally operated starting switch.

Troubleshooting

General

WARNING: For Your Own Safety, Turn Switch "OFF" And Remove Plug From Power Source Outlet Before Trouble Shooting.

Trouble	Probable Cause	Remedy
Motor will not run	1. Defective On-Off switch. Defective switch cord. Defective switch box receptacle. 2. Motor protector open, (only if your motor is equipped with an over-load protector). 3. Burned out motor.	1. Replace defective parts before using lathe again. 2. Reset protector when motor has cooled. 3. Consult an Authorized Service Center. Any attempt to repair this motor may create a HAZARD unless repair is done by a qualified service technician.
Lathe slows down when turning	1. V-belt is too loose	1. Adjust belt tension, see Assembly Section.
Tailstock rocks back and forth excessively.	1. Brass adjusting screw is too loose.	1. Adjust screw. See Section, “Getting To Know Your Lathe”.
Headstock loose on bed	1. Setscrew not tight.	1. Tighten setscrew. See Section, “Getting To Know Your Lathe”.
Wood burns at tailstock end	1. Cup center too tight or not lubricated.	1. Back off tailstock ram and lubricate cut center. See Basic Lathe Operation Section, “Spindle Turning.”

Motor

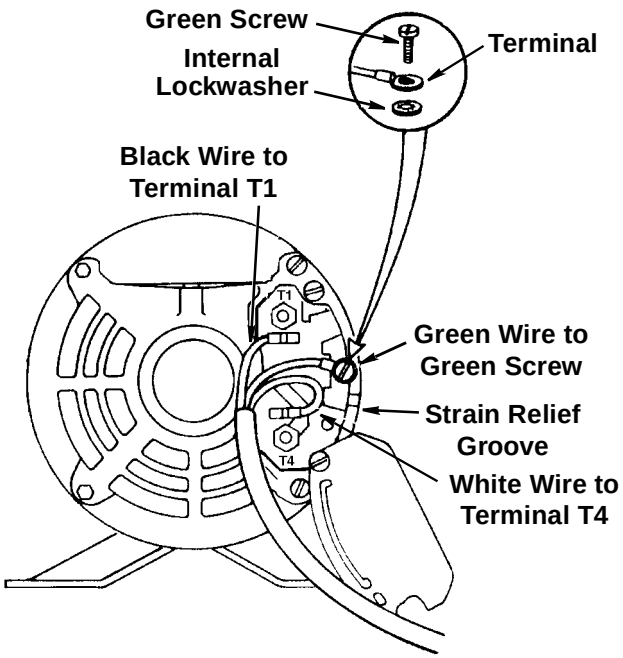
NOTE: Motors used on wood - working tools are particularly susceptible to the accumulation of sawdust and wood chips and should be blown out or “vacuumed” frequently to prevent interference with normal motor ventilation and proper operation of the centrifugally-operated starting switch.

Trouble	Probable Cause	Remedy
Excessive noise	1. Motor	1. Have motor checked by qualified service technician. Repair service is available at an Authorized Service Center.
Motor fails to develop full power. NOTE: LOW VOLTAGE: (Power output of motor decreases rapidly with decrease in voltage at motor terminals. For example, a reduction of 10% in voltage causes a reduction of 19% in maximum power output of which the motor is capable and a reduction of 20% in voltage causes a reduction of 36% in maximum power output.)	1. Circuit overloaded with light, appliances and other motors. 2. Undersize wires or circuit too long. 3. General overloading of power company facilities.	1. Do not use other appliances or motors on same circuit when using the lathe. 2. Increase wire sizes, or reduce length of wiring. See “motor Specifications and Electrical Requirements” section. 3. Request a voltage check from the power company.
Motor starts slowly or fails to come up to full speed.	1. Low voltage will not trip relay. 2. Windings burned out or open.	1. Request voltage check from the power company. 2. Have motor repaired or replaced.
Motor overheats	1. Motor overloaded. 2. Improper cooling. (Air circulation restricted through motor due to sawdust accumulating inside of motor).	1. Take shallower cuts. 2. Clean out sawdust to provide normal air circulation through motor. See “Maintenance and Lubrication” section.
Starting switch in motor will not operate.	1. Burned switch contacts (due to extended hold-in periods caused by low line voltage, etc.) 2. Shorted capacitor 3. Loose or broken connections.	1. Have switch replaced and request a voltage check from the power company. 2. Have capacitor tested and replace if defective. 3. Have wiring checked and repaired.
Motor stalls (resulting in blown fuses or tripped circuit breakers).	1. Starting switch not operating. 2. Voltage too low to permit motor to reach operating speed. 3. Fuses or circuit breakers do not have sufficient capacity.	1. Have switch replaced. 2. Request voltage check from the power company. 3. Install proper size fuses or circuit breakers.
Frequent opening of fuses or circuit breakers.	1. Motor overloaded. 2. Fuses or circuit breakers do not have sufficient capacity. 3. Starting switch not operating (motor does not reach speed).	1. Take shallower cuts. 2. Install proper size fuses or circuit breakers. 3. Have switch replaced.

Motor Connections

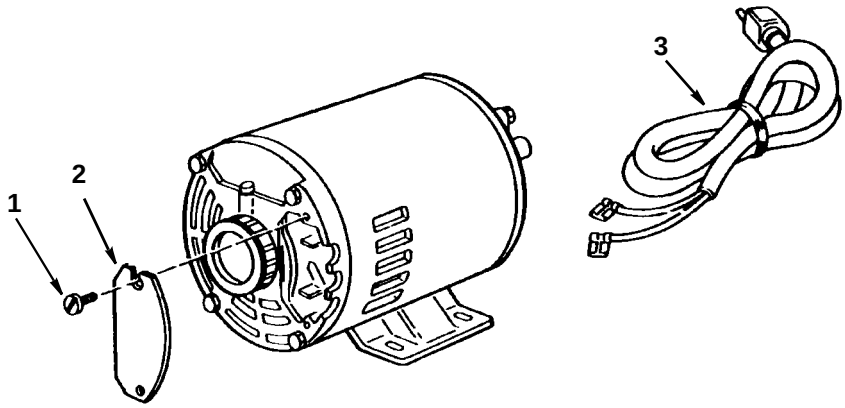
WARNING: For Your Own Safety, Turn Switch "OFF" And Remove Plug From Power Source Outlet Before Proceeding.

1. Open motor connector box cover located on right end of motor (viewed from rear of motor) using a flat blade screwdriver.
2. Remove **green screw** and lockwasher and insert screw through round metal terminal on the end of the **green** wire of power cord with lockwasher between terminal and motor frame. (See illus.)
3. Reinsert **green screw** in the threaded hole. Tighten securely.
4. Insert terminal end of **white** wire on spade terminal marked T4 on the motor. Push terminal firmly until seated.
5. Insert terminal end of **black** wire on spade terminal marked T1 on the motor. Push terminal firmly until seated.
6. Close motor connector box being sure that power cord is seated in the largest strain relief groove, and tighten box cover screws.



RIDGID 12" Wood Lathe
Model No. WL12000
Figure 1

NOTE: Any attempt to repair this motor may create a hazard unless repair is done by qualified service technician. Repair service is available at an Authorized Service Center.

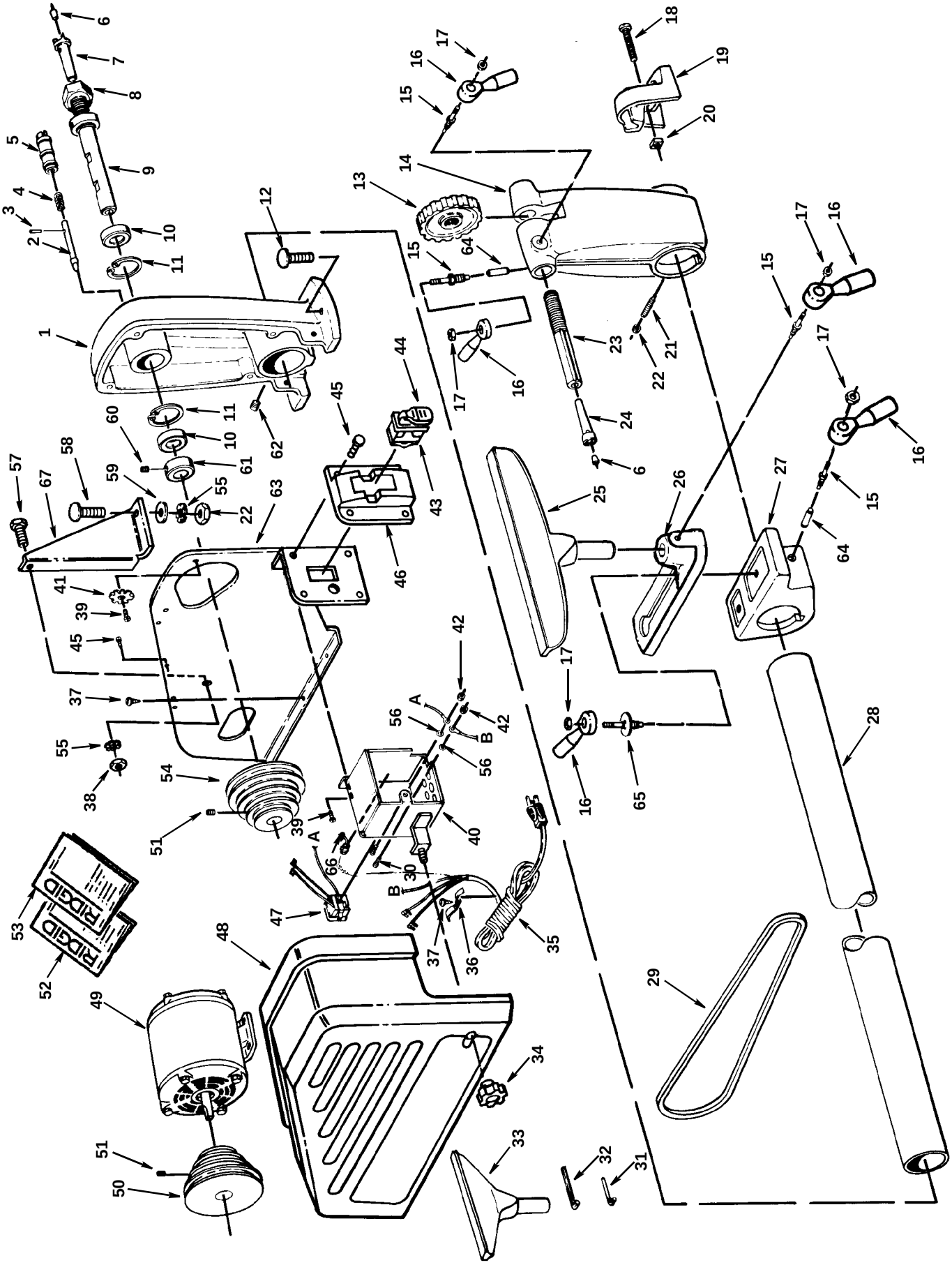


Always order by Part Number -- Not by Key Number

Key No.	Part No.	Description
1	805509-2	* Screw, Pan Hd. 8-32 x 3/8
2	64088	Cover, Terminal
3	305919-89	Cord with Plug

* Standard Hardware Item - May be purchased locally

RIDGID 12" Wood Turning Lathe Model WL12000
Figure 2



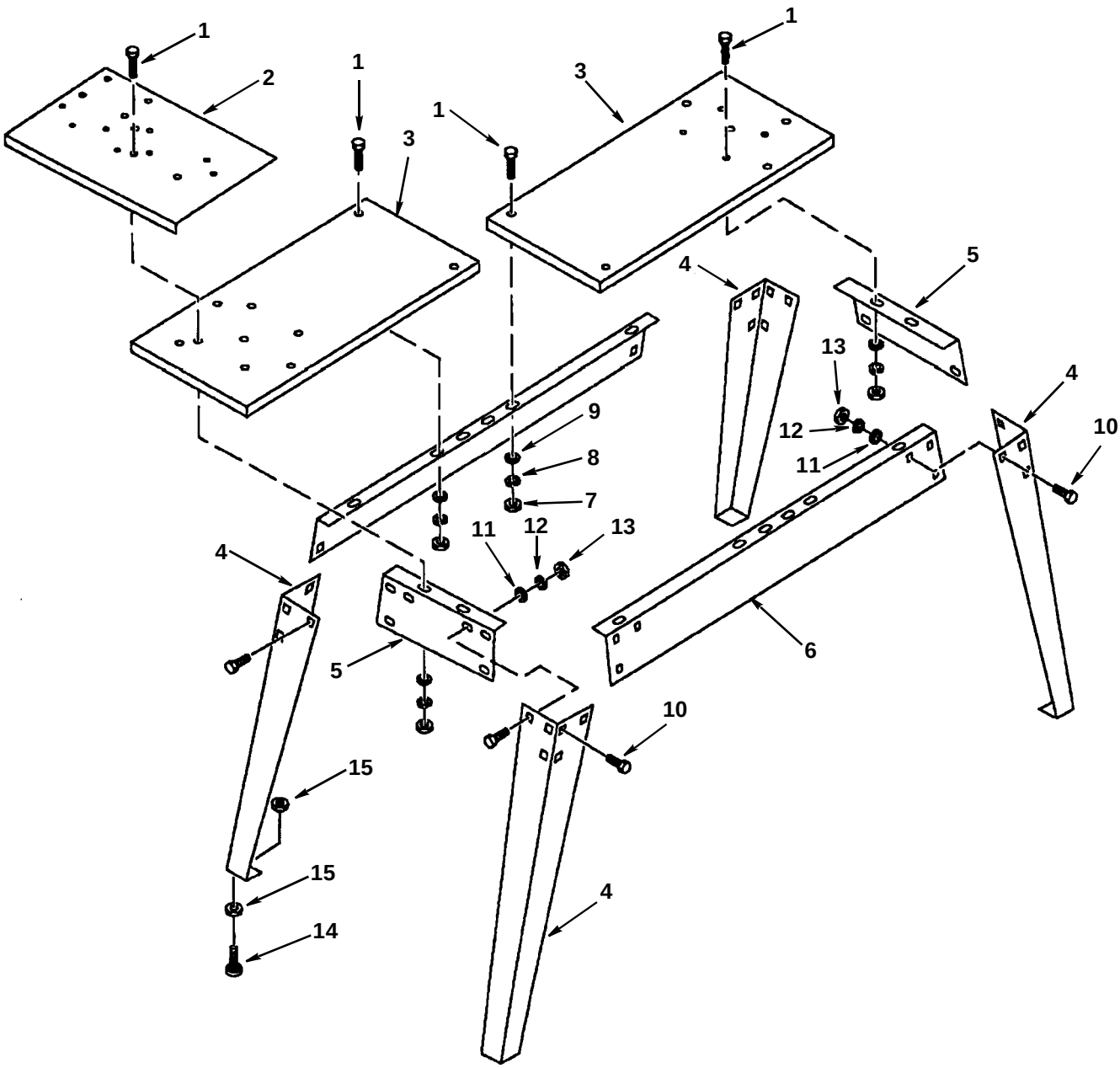
RIDGID 12" Wood-Turning Lathe Model No. WL12000
Figure 2
Always order by Part Number -- Not by Key Number

Key No.	Part No.	Description
1	826550	Headstock
2	826564	Plunger
3	813249-54	Pin Roll 2.5-12
4	826563	Spring
5	826562	Housing Plunger
6	826584	Center Point
7	826582	Center Spur
8	816989	Nut Hex 3/4-16
9	826553	Spindle
10	826552	Bearing Ball
11	826551	Ring Retaining
12	820377-2	Bolt Carriage M6 x 1.0-60
13	826560	Wheel Hand
14	828269	Housing Tailstock
15	826591	Stud nut
16	826592	Lever
17	817449-1	Nut Lock M6 x 1.0
18	826587	* Screw Pan Hd. M8 x 1.25-45
19	826577	Foot Rear
20	820258-4	Nut Sq. M8 x 1.25
21	828180	Screw Sl Set M8 x 1.25-31.75
22	820326-7	* Nut Hex M8 x 1.25
23	826559	Spindle Tailstock
24	826583	Center Cup
25	826574	Rest 12" Tool
26	826575	Holder Tool Rest
27	826576	Clamp Support
28	826571	Tube Asm
29	808644	* Belt V 1/2 x 37
30	816743-4	* Screw Pan Cr M4 x 0.7-8
31	813317-7	Wrench Hex L M4
32	813317-8	Wrench Hex L M5
33	826570	Rest 6" Tool
34	826601	Knob Guard

Key No.	Part No.	Description
35	826607	Cord w/Plug
36	63418	Clamp Cord
37	813312-6	* Screw Pan Hd M4 x 0.7-6
38	820236-6	Nut Hex M6 x 1.0
39	826586	* Screw Pan Hd Ty T M5 x 0.8-12
40	826606	Box Junction
41	813314-8	* Lockwasher Ext M5
42	824026-4	* Nut Hex M4 x 0.7
43	826123	Switch Locking
44	826122	† AC1000 Key Switch
45	816743-4	* Screw Pan Hd Ty T M4 x .7-8
46	826396	Bezel Switch
47	167165-2	Outlet
48	826599	Guard Asm.
49	826618	Motor
50	826556	Pulley 4 Step
51	817391-2	* Screw Soc Set M8 x 1.25-8
52	SP6169	Owners Manual
53	SP6170	Owners Manual - Spanish/French
54	826572	Pulley 4 Step
55	818826-6	* Lockwasher M6
56	813163-6	* Lockwasher Int M4
57	817390-5	* Screw Hex Hd M6 x 1.0-12
58	820377-1	Bolt Cup Hd Sq Neck M6 x 1.0-45
59	820238-4	* Washer M6
60	817391-2	* Screw Soc Set M8 x 1.25-8
61	826554	Collar
62	817391	* Screw Hex Soc Set M10 x 1.5-12
63	826605	Plate Guard
64	826590	Shoe Lock
65	826593	Stud Nut
66	169123-11	Relief Strain
67	826569	Bracket Plate

* Standard Hardware Item - May Be Purchased Locally
† This item is a RIDGID accessory available at Home-Depot

RIDGID 12" Wood-Turning Lathe
Model No. WL12000
Figure 3



RIDGID 12" Wood-Turning Lathe
Model No. WL12000
Figure 3

Always order by Part Number -- Not by Key Number

Key No	Part No.	Description
1	820377-1	Bolt Rd. Hd. Sq. Neck M6 x 1.0-45
2	826579	Plate Support
3	826619	Board Wood Lathe
4	826890	Leg
5	826581	Support End
6	826580	Support Side
7	817449-1	* Nut Hex M6 x 1.0
8	818826-6	* Lockwasher M6
9	820238-4	* Washer M6
10	821103	Bolt Rd. Hd. Sq. Neck M8 x 1.25-16
11	821063-2	* Washer M8 x 16 x 1.6
12	813163-12	* Lockwasher M8
13	817551	* Nut Hex M8
14	803835-1	Foot Leveling
15	118645	* Nut Hex Jam 3/8-16

* Standard hardware item - may be purchased locallay.

Notes

Notes

RIDGID

RIDGID
FULL LIFETIME WARRANTY
Against Material Defects & Workmanship

What is covered
RIDGID® tools are warranted to be free of defects in workmanship and material.

How long coverage lasts
This warranty lasts for the lifetime of the RIDGID® tool. Warranty coverage ends when the product becomes unusable for reasons other than defects in workmanship or material.

How can you get service
To obtain the benefit of this warranty, deliver via prepaid transportation the complete product to RIDGE TOOL COMPANY, Elyria, Ohio, or any authorized RIDGID® INDEPENDENT SERVICE CENTER. Pipe wrenches and other hand tools should be returned to the place of purchase.

What we will do to correct problems
Warranted products will be repaired or replaced, at RIDGE TOOL'S option, and returned at no charge; or, if after three attempts to repair or replace during the warranty period the product is still defective, you can elect to receive a full refund of your purchase price.

What is not covered
Failures due to misuse, abuse or normal wear and tear are not covered by this warranty. RIDGE TOOL shall not be responsible for any incidental or consequential damages.

How local law relates to the warranty
Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights, and you may also have other rights, which vary, from state to state, province to province, or country to country.

No other express warranty applies
This FULL LIFETIME WARRANTY is the sole and exclusive warranty for RIDGID® products. No employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of the RIDGE TOOL COMPANY.

Stock No. WL1200
Model No. WL12000 **Serial No. _____**

Model and serial numbers may be found under belt guard.

You should record both model and serial number in a safe place for future use.

QUESTIONS OR COMMENTS?
CALL 1-800-4-RIDGID
www.ridgidwoodworking.com

Please have your Model Number and Serial Number on hand when calling.

RIDGID Power Tools
Emerson Electric Co.

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